

NATIONAL FISHERMAN

DECEMBER
1956

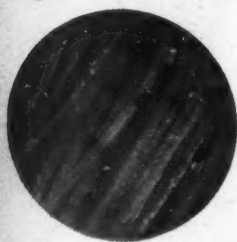
Longer, Stronger Life for Columbian Manila Rope

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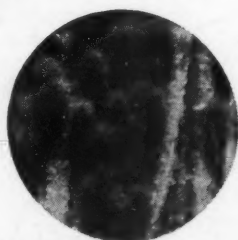
with Columbian's Amazing Anti-Rot Treatment ... even after years of use!

Laboratory Tests Prove Power of Special Columbian Treatment



Microphoto of treated Manila fibres after 2-week incubation with green mold spores. Only original spores applied for test are present.

Microphoto of untreated fibres after same 2-week test shows jungle of spores whose "roots" feed on fibre, leaving it rotted, useless.



- For tough, resilient strength ... the very best Manila fibres.
- For internal mechanical friction ... thorough, lasting lubrication.
- And now ... for protection against decay-producing moisture ... the new Columbian Anti-Rot Treatment that stops mold, mildew, fungi and decay bacteria cold!

Thousands of laboratory experiments tested the Columbian Anti-Rot Treatment for effectiveness against all types of cellulose-attacking organisms found in soil, air, fresh and salt water.

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Every foot of Columbian Manila Rope is adequately protected against decay for YOUR climate, YOUR uses, YOUR methods of handling!

COLUMBIAN ROPE COMPANY, Auburn, "The Cordage City", N.Y.
THE ROPE WITH THE RED, WHITE AND BLUE MARKERS



The Engineer's Field Report

CASE HISTORY
*Chevron Pressure
PRODUCT Primer System*

*Allman-Hubble Tugboat Co.,
FIRM Hoquiam, Washington*

Priming System starts diesel on 1st or 2nd turn — saves batteries and eliminates fire hazard



COLD WEATHER STARTING is no problem aboard the *Ranger*, (above), 43-foot work boat operated by Allman-Hubble Tugboat Company in the Aberdeen-Hoquiam area. A small steel cartridge, charged with Chevron Priming Fuel, fires her 150 h.p. Caterpillar D-17000 power plant on the first or second turn—avoiding the usual long cranking period that exhausts batteries. Mr. Howard Hubble, skipper of the *Ranger*, is shown (right) inserting primer cartridge in Chevron Pressure Primer Discharger mounted on engine. "This system," Captain Hubble says, "not only saves batteries, it gets away from the dangerous

practice of holding a rag soaked in starting fluid up to the breather cap. You get a safe, controlled charge, with no danger of fire or a cracked cylinder head caused by a racing engine." The Chevron Pressure Primer System is Coast Guard approved. It starts diesels in less than 10 seconds at -50°F.

FREE FOLDER tells you more about Chevron Pressure Primer System and how to install it on different engines. Write or ask for it today.

FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor, write or call any of the companies listed below.



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Why Chevron Pressure Primer System helps starting

Volatile Chevron Priming Fuel atomizes in induction system at temperatures as low as -65°F. Pressure or weakest spark from engine fires mixture.

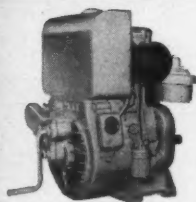


Simple, rugged discharger prevents priming fuel leakage. Small, safe steel cartridges protect priming fuel from water and dirt.

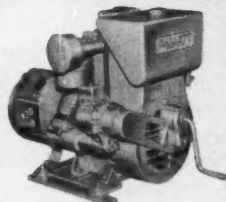
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A NEW ALL-AMERICAN LINE-UP OF LOW-COST, LIGHTWEIGHT DIESEL ENGINES

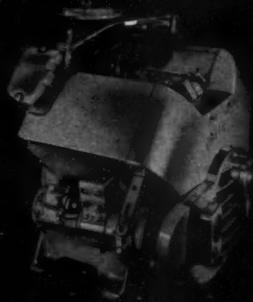
There's a new team now pulling together in the design and production of America's finest line-up of small Diesel engines. The financial strength and manufacturing experience of American M.A.R.C. is now firmly behind the line of Hallett Diesels—a guarantee that they represent greater values than ever before.



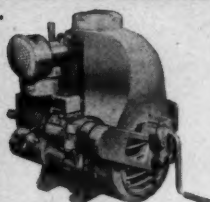
Model WC-1, one-cylinder, water-cooled, 4-cycle, 6 HP @ 1800 RPM. Wt.: 220 lbs.



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Sea-Master Model 108 with 4:1 ratio drives "Canfisco." Western Gear Flex-Master coupling which eliminates torsional vibration connects Caterpillar Diesel main engine with gear through powerful steel springs in combination with special "tuning" flywheel.



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Standard Sea-Master V-drive to 300 HP @ 2100 RPM, designed and manufactured for quiet operation and trouble-free service. Custom designs available for higher HP.



During the recent trials of Canadian Fishing Company's new 88' packer, "Canfisco," observers reported her engine-gear installation one of the smoothest and quietest they had ever examined. Two things contributed immeasurably to this successful installation, her Western Gear Sea-Master hydraulic reverse-reduction gear and the Western Gear Flex-Master coupling which, combined with Western Gear's custom design methods, eliminated torsional vibration. Western Gear marine specialists were consulted during every step in planning the power requirements for this vessel and assuring an eminently successful application.

Owners of this modern vessel now can count on trouble-free, smooth operation from the propulsion unit, so important to the workaday duties and arduous schedules of a cannery tender.

There is a Western Gear custom-engineered Sea-Master gear to fit your specifications. Sea-Master straight reduction gears from 150 to 50,000 HP, Sea-Master hydraulic reverse-reduction gears from 200 to 1200 HP. If you're planning a new vessel or repowering an existing one, call on Western Gear marine specialists for application assistance. Address General Offices, Western Gear, P.O. Box 182, Lynwood, California.

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NATIONAL FISHERMAN

The Fishing Industry Magazine
Formerly Atlantic Fisherman, Established 1919.

Fishery Industry Has Good Future

A most optimistic outlook for the New England fishing industry was voiced at a recent meeting of the New England Council by Thomas A. Fulham of Fulham Brothers, Inc., a leading Boston seafood producer, who stated:

"The stage is set for a dramatic revival in New England fishery fortunes. It will not be stopped by imports or stifled by blind adherence to traditional methods. The marine biologists, oceanographers and related scientists have shown that the raw material is there. The country's appetite for sea products is hardly sampled. The various governmental bodies are interested and sympathetic. Private as well as public capital will be available.

"What is in store for our fishery resources and the industry that exploits them? We have been most fortunate over the past years to have in our Fish & Wildlife Service and the various State agencies, men whose sole occupation has been a devotion to the cause of conservation and improvement.

"We have operated under the provisions of the Saltonstall-Kennedy bill for over two years. The results have been startling and of great importance. Two discoveries which have received considerable publicity have been the extensive deposits of huge deep-water lobsters and the existence of large schools of ocean perch in depths of water which have never been fished.

"Of even greater importance has been the compilation of vast data on salinity, temperature, and movement of water masses, as well as many thousands of miles of continuous plankton tows which reveal the movements of eggs and larvae of

both the commercial species and the other fish on which they feed. The economic importance of this research is that it can be translated accurately into predictions of just how much fish of any given species will be available to be caught in those areas three and four years from now.

"The attitude of the Federal Government is more favorable than at any time in recent history. Newly-enacted bills provide for a Bureau of Fisheries with sole responsibility for Federal programs related to Fisheries; a special \$10,000,000 revolving fund which sets up ten-year loans for the maintenance, repair and equipment of fishing vessels; and an appropriation for training of personnel for the fishing industry.

"If the industry will follow the advice and guidance of the marine biologists, it is conservative to predict, between haddock and ocean perch alone, an increase in yearly availability of over 100,000,000 pounds from nearby sources.

"The acceptance of new convenience seafood products such as fish sticks is opening an entirely new market concept to the processors and marketers. The wealth of products which can be prepared from the multitude of various seafoods staggers the imagination."

With so many favorable influences to aid its development, the fishing industry can look ahead to continued growth and prosperity. But to take full advantage of its opportunities, the industry must have aggressive leadership. It is necessary to modernize operating techniques wherever possible, and to utilize the latest production equipment and marketing methods.

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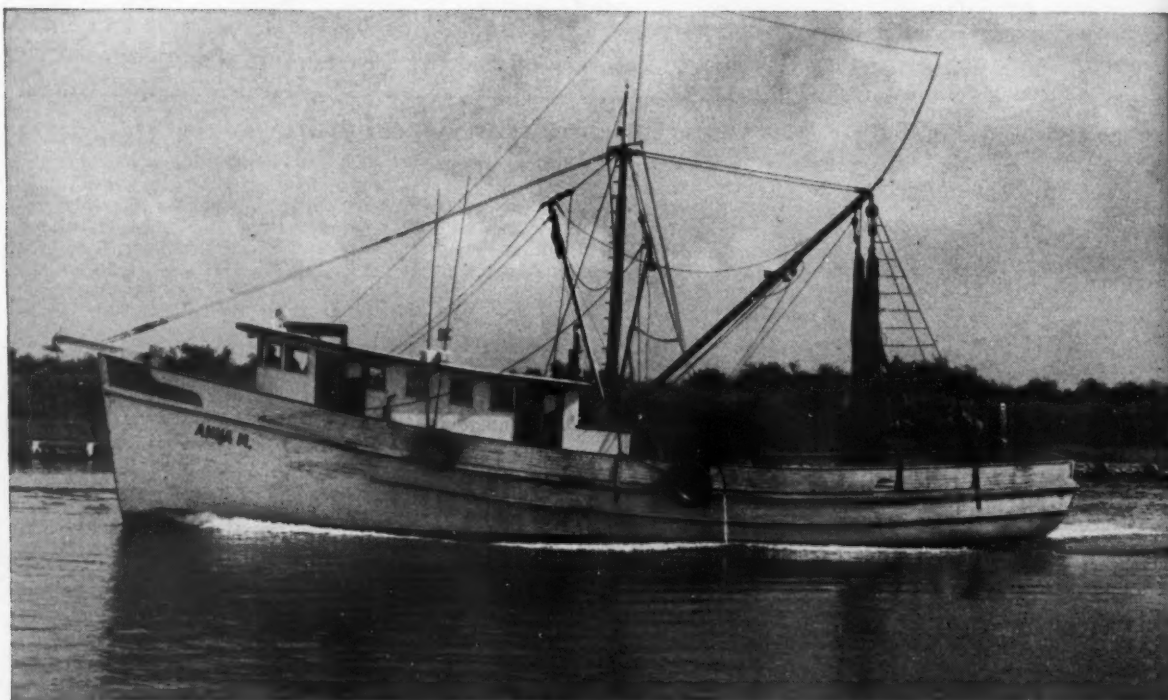
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Why are more and more fleets using STYROFOAM INSULATION?



Anna M. is one of twelve 65' to 80' shrimp boats operated out of Freeport, Texas, with six 45' to 65' deep-sea charter boats, by Muchowich Fishing Fleet.

"Styrofoam is easiest installed . . . maintains top insulating efficiency . . . cleanest and easiest washed," says Ray Muchowich, owner of 18-boat fleet. And he has used Styrofoam since 1949!

It's a big help to more profitable fishing. That's for sure, because no other low-temperature insulation gives you all these properties:

Styrofoam® (a Dow plastic foam) resists water and moisture better—that's why its low "K" factor stays low. It is permanent—won't rot, mold, deteriorate. It can't absorb water—salt or fresh. It is so strong it can support concrete floors. Yet so light, a cubic foot weighs less than two lbs. Styrofoam can't pack or shift in use. And rodents don't like it. What's more, Styrofoam provides top buoyancy—supports 55 lbs. per cu. ft.

EASILY INSTALLED! MANY USES!

Ray Muchowich reports, "Anyone who can saw can install Styrofoam." He loads his boats with ice, and Styrofoam keeps it from melting during 45- to 60-day trips. That's in the Campeche Gulf, too! Styrofoam is ideal for ice compartments, blast freezers, ice boxes, bulkheads—for more profitable fishing, anywhere.

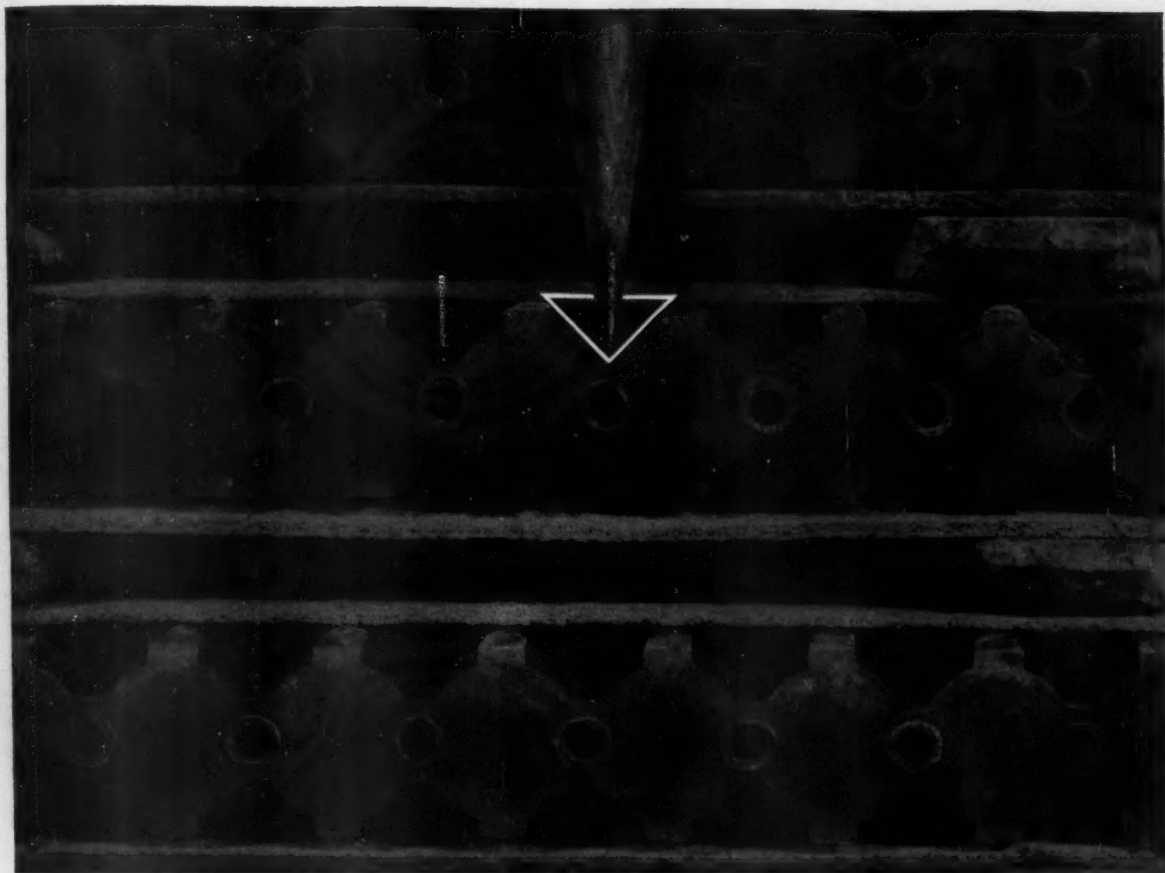
Learn why this is the most efficient, economical and trouble-free insulation for fishermen. Get your copy of Styrofoam data book. Write: THE DOW CHEMICAL COMPANY, Midland, Michigan—Plastics Sales Department PL514J-2

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EXIDE-IRONCLAD BATTERIES

For all marine applications



BOTTOM VIEW shows tubular construction of positive plates in an Exide-Ironclad Battery.

Pools of electrolyte next to plates speed heavy load response



BATTERY FOR MARINE SERVICE. Exide-Ironclad Model MVD. Write for Bulletin No. 5190.

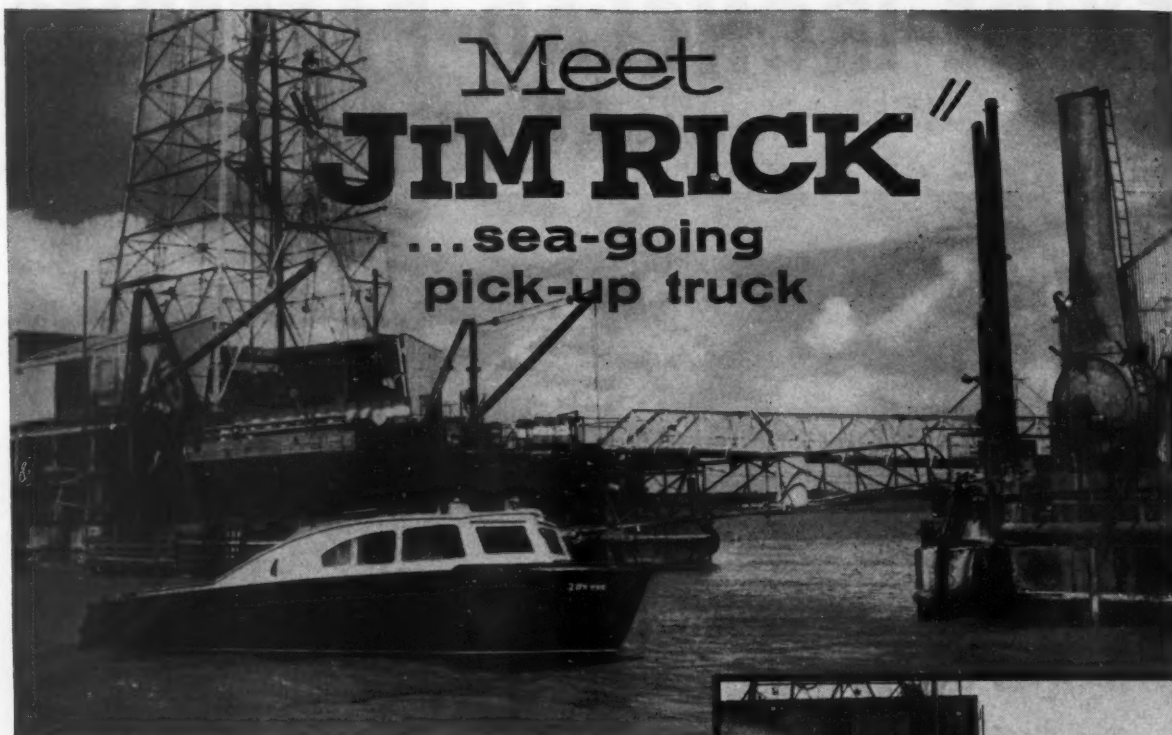
When the man at the control says "More power—fast," the positive plate in the storage battery says "More electrolyte— instantly." That's why the Exide-Ironclad Battery can meet heavy load demands so much more rapidly than other types of batteries. And it's the reason they outperform others in so many uses.

Adjacent to every positive plate in the Exide-Ironclad Battery are these triangular pools of electrolyte standing in reserve. When the call comes for power, the electrolyte is right there where it's needed for swift, sure response. There's nothing to slow down the action. Tiny slits in plastic power tubes let electrolyte in—yet prevent loss of active material.

Only the Exide-Ironclad Battery has this construction.

This exclusive feature is only one of the many reasons Exide-Ironclad Batteries have proved so superior in countless applications. When you order batteries for heavy duty service, or the equipment that requires such batteries, be sure to specify Exide-Ironclad. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

Exide®



JIM RICK (above and inset)—delivers men and supplies to offshore oil drilling rig. At right are steam generators that power the drilling operations which appear on the left. **JIM RICK** is a 30-foot all-steel sedan cruiser built by Sewart Seacraft Inc. of Berwick, Louisiana.



Owner **ORRIN E. CHRISTY** (above) watches crewman check over one of the twin Chrysler Crowns. Engines turn 20" x 20" propellers through 2 to 1 reduction gears.



Here's a 30 footer with hardly ever a dull moment! The *Jim Rick* is a Sewart Seacraft-built personnel and supply carrier. She is owned by Orrin E. Christy Co. of Morgan City, Louisiana.

Year in and year out the trim all-steel craft is under lease to oil operators with inshore rigs anywhere along the Gulf or the Intercoastal Canal. Since her purchase by Christy in 1952 *Jim Rick* has travelled some 35,000 miles. Runs are always fast, almost always under full throttle. No "one-skipper job," *Jim Rick* is subjected to all kinds of operation. receives all kinds of service—some good, some spotty.

Let owner Orrin Christy tell you about his boat. "Hauling men and supplies is pretty rugged stuff. The reliability of your marine power is mighty important, and fast parts availability is vital. With Chrysler Crown Engines you've got everything—power, performance and parts availability on short notice, anywhere. We're glad to have Chrysler aboard."

For further information on any Chrysler Marine Engine, 95 h.p. to 250 h.p., in-line 6 or V-8, see your Chrysler Marine Engine Dealer, or write: Dept. 122, Marine Engine Division, Chrysler Corporation, P.O. Box 1919, Detroit 31, Mich.

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- ✓ Resistor-type spark plugs for reduced radio interference, smoother operation
- ✓ Full-flow oil filter circulates only clean oil
- ✓ Chrysler-exclusive reverse gear system
- ✓ Choice of right or left rotation engine

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► Fisheries Loan Rules Amended

An amendment has been announced to refinancing provisions of the fisheries loan regulations, under which a \$10,000,000 revolving fund was provided by Congress to bring about a general rehabilitation of fishing vessels and fishing gear. The amendment is designed to permit refinancing in the case of liens and existing preferred mortgages and secured loans, in those instances in which the Secretary of Interior deems such refinancing to be desirable in carrying out the purposes of the act. The initial regulations prohibited the use of loans for paying previously incurred debts.

► Alaska Salmon Pack Up

Red salmon, coming back to their spawning grounds in numbers reminiscent of earlier years, spear-headed 1956 Alaska salmon pack to an increase of more than 25 percent over that of 1955. Preliminary figures indicate a pack of 2,989,030 standard cases, or 600,000 cases above 1955 total, and not far behind the 3,094,753 cases of 1954. While the pack is still below the long-term average, the trend which has been generally down since 1943, appears to have been arrested by conservation measures which are now in effect.

Pink salmon still have "to turn the corner", but Fish and Wildlife Service officials report that current conservation practices, especially in Prince William Sound and south-eastern Alaska, demonstrated their effectiveness in 1956. One very encouraging aspect of 1956 run is that escapement of both red and pink salmon to spawning grounds in most areas was well above average of recent years, a fact which portends well for the fisheries of future years.

► Fillet Imports Set Record

During October, a total of 25.7 million pounds of cod, haddock, hake, pollock, and ocean perch fillets, including blocks, was received in the United States. This was the largest amount of fillet imports recorded in any one month. The increase of 52 percent over October 1955 was caused primarily by greater imports from Canada (up 5.0 million pounds) and from Iceland (up 3.1 million pounds).

Eleven countries exported 128.7 million pounds of groundfish and ocean perch fillets to the United States during the first ten months of 1956, while twelve countries exported 114.6 million pounds of these products during the corresponding period of 1955.

► Gain in Fish Meal, Oil Output

Fish meal and scrap production in United States and Alaska by firms reporting their output to Fish and Wildlife Service, amounted to 228,970 tons in first nine months of 1956, compared with 200,511 tons pro-

duced during same period of last year.

The fish-body oil yield during nine-month period of 1956 was 20.9 million gallons—6 percent more than 19.7 million gallons reported for corresponding period of 1955. Menhaden accounted for 86 percent of total oil yield in first nine months of 1956.

► Tuna Most Popular Canned Fish

Canned tuna was served at least once during the 12 months prior to July 1, in 76 percent of all households in the United States, according to a Fish and Wildlife Service survey. Canned salmon was served in 69 percent of the households, and sardines in 50 percent of the households.

The relative ranking of these three species of fish varies somewhat among regions. Canned tuna was most popular in West, being served in approximately 88 percent of the homes. Canned salmon was most frequently used in North Central region, where it was more popular than canned tuna—75 percent to 72 percent. Canned sardines were used most often in the South, where 55 percent of the housewives served them.

► Court Rules on Trade Agreements

The U. S. Customs Court has dismissed a suit contesting, on behalf of the Southern California tuna industry, the constitutionality of the Trade Agreements Act, under which United States has negotiated reciprocal tariff reductions since 1934. The case involved a complaint against a reduction in the U. S. tariff on canned tuna packed in brine, from 25 percent to 12½ percent, as a result of a trade agreement with Iceland.

Domestic tuna industry challenged constitutionality of trade agreements legislation on ground that trade agreements are treaties, and as such must be ratified by a two-thirds vote of the Senate; that the right to levy and collect import duties is reserved to Congress; and that the delegation of authority to the President to negotiate trade agreements is therefore unlawful.

The Government moved for dismissal of the suit on the ground that tariff rates can be protested only by a manufacturer or processor of a product that is identical or similar to that which is imported. Domestic industry packs tuna in oil rather than in brine. The Customs Court dismissed the suit by a 2-1 vote.

► Cold Storage Holdings

Cold storage holdings of edible fishery products on November 1 were approximately the same as a year ago. There were lower holdings

of whiting, shrimp, cured herring, and sablefish. Higher holdings were mostly in cod, haddock, and ocean perch fillets, salmon, and Pacific Coast crabs.

► Big Gain in Shrimp Imports

U. S. shrimp imports (fresh, frozen, canned, and dried) from all countries for January-September 1956 amounted to 49.5 million pounds, as compared with 32.3 million pounds for same period in 1955. Shrimp imports from Mexico totaled 38.3 million pounds, whereas in same months of 1955, they were only 26.2 million pounds.

► Fishery Films in Demand

Over 140 libraries—40 more than a year ago—are now distributing Fish and Wildlife Service documentary films on commercial fishery subjects to more than a million viewers a year. In addition, the films are seen annually by a vast television audience.

A sound, color, 16 mm. film produced about eight years ago by the Fish and Wildlife Service, in cooperation with the Maine sardine industry, has been in constant distribution during those years and has had a larger audience every reporting period. The effectiveness of the program is best evidenced by the fact that the Maine sardine industry is sponsoring a follow-up film, featuring the use of Maine sardines in hot and cold dishes. Similar films have been produced cooperatively with the shrimp, menhaden, and other industries related to fisheries.

Two new films soon to be available for general distribution are "Outboard Fisherman USA" and "Shrimp Tips from New Orleans". Another picture under preparation is tentatively titled "Fresh Out of the Water". This film portrays the catching of some species of fish, and then the processing, preparation and serving.

► Atom Fishing Boat Foreseen

An atomic fishing boat that would use the atom's energy to lure, capture, sterilize and refrigerate or can the fish is envisioned by a University of Wisconsin scientist. Dr. Arthur D. Hasler says the atomic "luring" would be done this way:

The ship's atomic reactor, in addition to propelling the ship, would furnish enough current to electrify the water in the area near the vessel—and thereby attract the fish to a point where they could be pumped aboard.

Such ships, Dr. Hasler told a Senate-House Atomic Subcommittee, would be valuable for the "have-not" nations, such as India or Japan, where their ships have to go long distances into the tropical seas.

FISHERY PROGRESS



Meet A Master of the Shrimp Hunt---

JOHN SANTOS CARINHAS

Ask anyone in the swim around Gulf ports these days what they know about John Santos Carinhas—and each will agree that Captain Santos played a mighty important part in putting the Gulf on the shrimping industry map. Today one of the Gulf's largest takers, processors, and shippers of shrimp, "Captain John" has won the respect and affection of everyone in the hunt. From Florida to Texas and most points in between, he's a symbol of the strength and vitality that stamp the industry today.

Operating out of Patterson, Louisiana and Brownsville, Texas, Captain John catches 1,125,000 pounds—that's 10,000 barrels—of shrimp, plus between 150 and 200 million menhaden a year. His fleet now numbers fifteen shrimp and twelve menhaden boats, plus some seven or eight auxiliary vessels.

Actually, he started after sardines before he came up with shrimp. Sardines are the economic mainstay of Olhao, Portugal, where he was born John Santos Carinhas. John began fishing at eight, learned his trade well (including the vital art of net making and mending) and saved enough money to bring him to New York at seventeen. "I wanted to make more money," he says simply.

After two years he hooked up with Captain Wes Robinson, then fishing for menhaden from Fulton, Florida. A

couple of southern sorties a year was enough for Santos, and in 1915 he called Florida his home for good. Shrimp were the order of the day, and he set out to serve the biggest orders he could find.

The first boat he owned—the *Pelican*, out of Fernandina—was a 22-footer on which he put up his own cabin, and made his own nets. Soon he was doing likewise for his fellows in his spare time. Captain John was on his way.



Sorting, weighing, packaging jumbo shrimp.

With each different command the fleet grew, and Captain John ranged further and further asea in search of new and richer sources of shrimp. Trips of five and six days, with each ship carrying as many tons of ice, replaced the former close-to-home standard operating procedure.

Captain John took time off in 1925 to marry the daughter of a shrimp fisherman from St. Augustine, Fla. Among his subsequent new boats was the *Johnnie Junior*, named for his firstborn son, John Santos, Jr.

Along about this time, Santos turned his attention to greatly increasing the horsepower of his new craft. When asked by the U. S. Government why he called one full diesel 100-hp boat the *G-Man*, Captain John replied that it, too, got what it went after—and he heard no more from Washington.

After 1930, Captain John followed the shrimp through divers waters—Georgetown and Young's Island, South Carolina; St. Augustine; Galveston, Texas. These years saw the birth of four more children—Frances Joyce, Clementina Ann, Joseph Edward, and Julia Dianne. It was at this time, too, that Bright Kornegay joined forces with Captain John. He's been an indispensable right-hand man ever since.



Bright Kornegay (left) on tugboard.

In 1939, Captain John moved his fleet to what has been styled the "Shrimp Capital of the World"—Morgan City, Louisiana—and went right on building larger and larger boats. The enormous quantities of shrimp he caught quickly drew the glare of national publicity and put shrimp in the front ranks of luxury dishes in homes and restaurants across the nation. (The largest haul he can recall for one of his boats is the 156 barrels taken by the *Constitution* on a five-day trip out of Morgan City.)

A true pioneer, from the days of the early gasoline-driven boat to the present-day high-powered diesel craft, Captain John has charted the way for the shrimp industry in the Gulf. Today his fleet uses the very latest in fishing techniques and devices—airplanes, radios, depth recorders, direction finders, automatic pilots, loran and even walkie-talkies from small boats.

It's expensive—but it increases efficiency and adds immeasurably to the haul. "And that's what counts," says Captain John. "People like shrimp. I can sell all I can get—and I'll go as far as I have to, to get all I can sell."

The Pettit Paint Company is proud to print this story of an outstanding American in the fishing industry.

PETTIT
marine paint

PETTIT PAINT CO., INC.
Belleville, N. J. Since 1861 San Leandro, Calif

Curbing of Ocean Gill-Net Fishery for Salmon Urged by Pacific Fisheries Commission

THE Pacific Marine Fisheries Commission concluded its three-day annual meeting at San Francisco on November 28 by recommending action to curb the newly-developed and rapidly-growing ocean gill-net fishery for salmon off the coast of Western Canada and the United States.

The tri-State Commission, composed of fisheries officials from Washington, Oregon and California, passed a resolution asking the U. S. State Department to discuss immediately with Canadian officials a regulation aimed at drastically controlling or prohibiting altogether the use of gill nets for catching salmon in offshore waters. The Commission asked to be represented at the proposed U. S.-Canadian conference. It then would carry back recommendations to the Pacific Coast State Legislatures for adoption, so that enforcement would be uniform.

Robert L. Jones, Oregon Fisheries Commissioner, was chosen chairman to succeed Robert J. Schoettler, director of the Washington State Department of Fisheries, who was elected secretary. Richard S. Croker, chief of the Marine Fisheries Branch of the California Department of Fish and Game, was named vice-chairman, taking over that post from Jones in the customary rotation of leadership. Charles Phenicie is the newly-appointed research coordinator.

About 100 fishing industry representatives and officials of the three Pacific Coast States attended the meeting, with some visitors from Canada and Alaska. The resolution against offshore gill-net salmon fishing was adopted unanimously after intense debate and comment by many attending.

Referring to the ocean gill-net fishery, Mr. Schoettler said: "This is the biggest problem ever to come before the Commission." Schoettler, who was chairman of the meeting, noted that Canada had proposed the ban on offshore gill-nets for salmon.

Besides a report by Washington State Biologist Hans Jensen on the offshore gill-net salmon fishery, there were reports from fishermen themselves. E. A. Davisson of Oakland disclosed that one boat, the *Thoreen*, was reported to have taken 16,000 pounds of salmon in one trip and 11,000 pounds in a second voyage, having fished about 10 days in all.

Mr. Jensen, while also urging salmon conservation, said that he too had heard of the *Thoreen's* tremendous success early in the season. But he pointed out that by the end of the season, her catch had averaged out to little better than that of any other large converted vessel.

The gill-net resolution was opposed by Charles R. Carry, executive director of the California Fish Cannery Association of Terminal Island, who represents the tuna industry. In a telegram to the Commission, he said that he opposed specific action against any method of high-seas fishing, since it would set a precedent which could be seized upon by South American countries eager to curb American tuna fishermen.

Want Uniform Chinook Trolling Season

In another resolution, the Commission ordered its staff to arrange for informal talks with Canada aimed at adopting a uniform season for chinook salmon trolling. The resolution on trolling calls for the season to open April 15 and close September 30 in all three States, as well as in Canadian waters.

Oregon and Washington now operate under that season, but Canada has an open trolling season. California's opening date is May 1.

In the discussion which took place before adoption of the trolling resolution, Harry McCool, vice-president of the Washington Fishermen's Cooperative Association, said

that Washington fishermen want an equal chance and equal conservation. He said he would urge the Washington Legislature to permit fishermen of his State to open their trolling season March 15 instead of the present date, until the three States can get an agreement with Canada.

The Pacific Marine Fisheries Commission also urged continued closure (from February 1 through April 15) of the petrale sole fishery, but left it up to a meeting of industry representatives and biologists to determine permanent conservation measures. Figures on the decline of the petrale sole fishery showed that whereas the catch in 1948 was 13.9 million pounds, it dropped to 3.5 million pounds in 1955.

More Bottom Fish Being Used for Mink Food

An interesting development in the bottom fish industry of Oregon and Northern California was disclosed by biologist Sigurd J. Westrheim of the Oregon Fish Commission, and J. A. Aplin, biologist for the California Department of Fish and Game. So many mink are being raised on Oregon fur ranches that many coastal trawlers now land more bottom fish for mink food than for human consumption, Westrheim reported. Production of bottom fish at Oregon ports this year will total 26 million pounds, he estimated. Of this amount, 14 million pounds will end up as mink food.

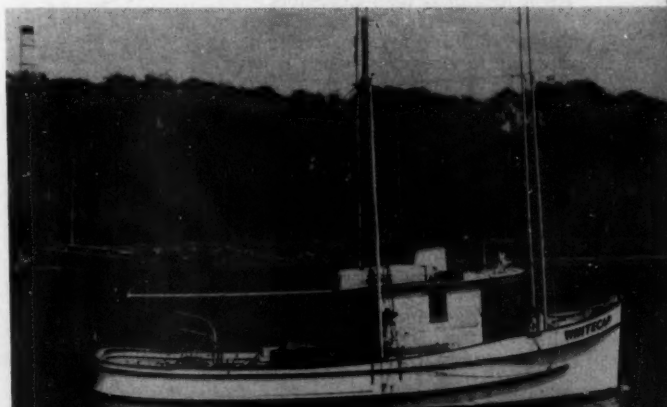
Most of the 12 million pounds of sole, ocean perch and various kinds of rockfish which are destined for the family and restaurant table are filleted. However, the mink gets a cut, taking the leftover scraps from the filleting process—some 7 million pounds this year.

California trawlers are beginning to move into this market, too, landing one million pounds of mink food this year, according to Aplin. However, California's catch of bottom fish is still mainly for human consumption. This year's production will be about 32 million pounds.

Allard J. Conger, Jr. of Astoria, Ore., a boat owner advisor to the Pacific Marine Fisheries Commission, asserted that some boats fishing exclusively for mink food are violating net regulations. He said Oregon fish and game wardens are not "active" in their enforcement. "Boats interested only in animal food, in volume, are putting close mesh inserts into their nets after leaving port," he declared.

Other fishermen asked the Commissioners to recommend

The "Whitecap", 43' troller owned by Ralph Phillips of Costa Mesa, Calif., and powered by a 6-71 General Motors Diesel. She also is equipped with Apelco direction finder, Freeman automatic pilot, Kolstrand hydraulic anchor winch and 6-spool gurdies, Akervick bearings and a 5½ hp. Fairbanks-Morse Diesel for refrigeration.



to their respective State Legislatures that mink food be composed only of normally non-edible fish, such as turbot or arrowtooth sole, and hake. Hake is landed in California as animal food, but not in Oregon, according to the biologists.

Westrheim said four years of large-scale samplings of mink food landings indicated that 33 percent of the catch is made up of numerous kinds of rockfish; 30 percent consists of rex, Dover, English and petrale sole, while another 30 percent consists of turbot. The rest is composed of miscellaneous fish.

Commenting on the offshore net fishery for salmon, Hans Jensen, biologist with the Washington State Department of Fisheries, said: "In July, 1955, some of the vessels which had been trolling attempted the ocean gill-net fishery and, because of their initial success, the fleet increased rapidly. They used nets of from 300 fathoms to 800 fathoms wide, and fished generally 8 to 15 miles offshore.

"In 1956, fishermen were able to profit from previous experience, and good use was made of the drifts that had been pioneered the year before. As the season progressed, more and more boats entered the fishery, including many Canadian vessels. It became necessary to expand fishable area in order to avoid close competition with the adjoining fishermen. Consequently, the vessels moved southwest of Cape Flattery and south of the Swift Slone Lightship.

"Growth and expansion of the fishery was little short of phenomenal. In 1955, a total of 54 American gill-net boats operated off the coast. By 1956, many more boats had 'tuned up' for the fishery by installing such items as depth sounders, direction equipment, radio equipment, larger reels to hold more netting, and stabilizers to enable them to work in the ocean chop.

"During 1956, a total of 140 gill-net vessels landed one or more times. Only about half of these consistently fished the ocean, but those that did were extremely successful. Looking at the catch, it is apparent that large numbers of silvers were taken, as well as many sockeyes and chinooks.

"The research staff closely watched the ocean gill-net fishery develop, and made the following studies: 1. marked fish as observed in the ocean net catches; 2. immature fish in the gill-net catch; 3. effects of the gill-net on the purse seine fishery.

"Approximately one-half million Puget Sound silvers were marked in 1953, which fish entered the commercial fishery as adults in 1956. In the neighborhood of 600,000 were marked on the Oregon coast and in the Columbia River and in British Columbia.

"From some 14,000 silvers examined, it was shown that Puget Sound marks predominated, showing up rather strongly in the offshore net fishery.

"Observations on catch by gill-net were made by actually going out with the vessels. Observed catches of immature chinooks ranged from none to 25 per night. Via radio, we learned that 25 to 30 chinook often were caught in a single drift. Boats with 5½ to 6-inch gear appeared to have more trouble with immature salmon than did fishermen using 6½-inch mesh.

"The problem of incidentally-caught immature salmon is not one common to the gill-netter alone. It also is recognized that a similar problem exists with the purse seiner.

"The purse seine has been the dominant gear for fishing salmon in the open ocean since 1910, and the catches have been substantial, particularly during the odd year. The



Robert J. Schoettler of Seattle, Wash., new secretary of the Pacific Marine Fisheries Commission.

purse seine catch decreased sharply during 1956, and purse seine fishermen tend to blame gill-netters for breaking up the schools and holding fish deep. The low catch is not the result of decreased effort, since many seiners participated.

"Probably one phase of the ocean gill-net fishery that should receive comment is the role of the large seine or trawl-type gill-netter. It is questionable whether the operation of some dozen large vessels could be considered successful. Aside from one or two boats, the average catch was quite consistently less than that for many of the one-man boats.

"It appears that an entirely new area of fishing has been opened to the gill-net—a type of gear which operates effectively on stocks that already are fished very heavily. Certainly if the rate of expansion which occurred during 1955 and 1956 continues for very long, then the inside commercial fisheries face severe curtailment of fishing time in order to assure escapement of salmon to the streams."

Chinook Salmon Run Shows Improvement

Last year the Pacific Marine Fisheries Commission recommended that the Oregon and Washington troll season for chinook salmon in 1956 open April 15 instead of March 15, and that the Commission's research staff keep the fishery under study.

In discussing the situation, Jack M. Van Hynning, biologist with the Oregon Fish Commission, said: "After a thorough study of all the factors affecting this stock of fish and the possible causes of decline, we were forced to the conclusion that 'just too many were being caught'. The remedy for this is simple—reduce the catch.

"The 1956 troll chinook catch from the mouth of the Columbia River north was good immediately after the season opened April 15. The remainder of the season, however, produced poor catches considerably below the previous five-year average.

"The fishery off the west coast of Vancouver Island was very good all through the season, both in catch and abundance, and the intensity was up slightly. Northern Columbia and Alaska had very poor chinook fishing.

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The 37' salmon troller "Westri", owned by Henry W. Peterson and operated out of Westport, Wash. She has 4-51 GM Detroit Diesel, installed by Evans Engine and Equipment Co. of Seattle, which turns 30 x 23 wheel through 3.5:1 reduction gear for a cruising speed of eight knots.

How to Obtain Accurate Compass Operation

Capt. Robert L. Hempstead* says proper location of compass and surrounding equipment helps to make compass steady. Reduces frequency of compass adjustment.

THE magnetic compass, which is one of the simplest and least expensive of navigational instruments, holds a position of supreme importance on fishing vessels. It cannot be emphasized too strongly that the safety of the vessel at sea lies in a first-grade compass, well located and properly adjusted.

However, the compass can be impaired somewhat as an unerring guide for the mariner by a few defections of a more or less elusive nature. The principal causes of navigational error are those ever-varying, inconstant deflections of the compass needle to the right or left of the magnetic meridian. The magnitude of this deviation is contingent upon the magnetic conditions of the ship and its gear, and upon the proximity to the compass of iron fixtures and certain electronic gear.

It follows, then, that a compass should be of a suitable type for the craft on which it is to be used, that very careful consideration should be given to location of the compass and the equipment that is to be placed near it, and lastly, if conditions require it, that the compass be adjusted by a qualified compass adjuster. This article will discuss these topics in the above order, with the intention of helping the mariner acquire a steadier compass, which will require less frequent adjustment.

The Float Compass

There are two basic types of marine compass—the conventional "float" compass, and the "hemispherical", or "globe" compass, of more recent years. There are advantages in both types. The float compass, as the name implies, utilizes a hollow brass chamber shaped like a half sphere in the center of the card and magnet system of the compass. The purpose of this float is to take the weight off the card and magnet system so as to reduce the friction at the jewel and pivot. This prolongs the life of the jewel and pivot, in addition to producing a very sensitive compass.

Compasses of the float type are now manufactured in sizes ranging from 6" to 9", with the 6" and 7" sizes having the most suitable performance characteristics for the average fishing trawler. The multiple magnet system of the float type compass permits very stable adjustments.

Float compasses are almost universally filled with a fluid that consists of 55% distilled water and 45% grain alcohol. Therefore, when a bubble appears, you need only go to a pharmacist for this mixture; no other type of fluid should be used.

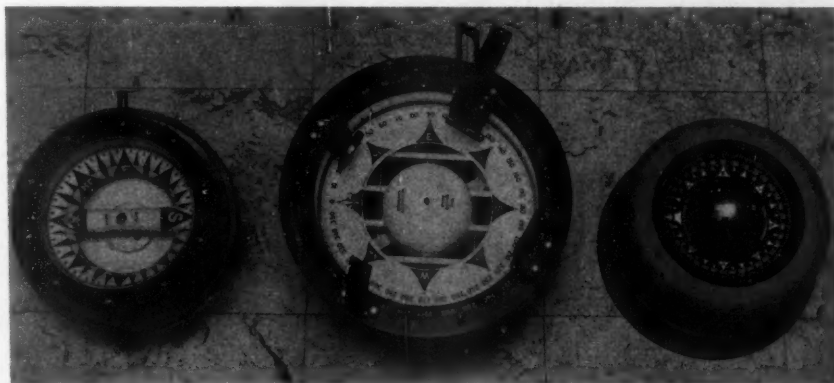
The Hemispherical Compass

The hemispherical compass, by the nature of its design, is able to use a reduced diameter card and still give the impression that the card is approximately the same diameter as the bowl. Aside from theoretically producing a

steadier card, this feature makes room to secure the gimbaling system within the globe. Thus, the motion that normally attends the gimbaling when slung outside the compass, is now dampened in the compass fluid. These features of the hemispherical compass would be most appreciated on small, fast vessels, since these craft are prone to be quite lively in choppy weather, or where the compass is located well forward of amidships.

Because the new hemispherical compasses do not employ a float chamber, the card and magnet systems are made of light alloys. Nevertheless, most hemisphericals do not stand up to vibration and retain sensitivity quite as well as the float compasses. To remedy this, shock-mounted binnacles have been developed to accommodate several sizes of hemispherical compasses.

It is possible to make a very primitive but quite effective shock mounting platform for the hemispherical compass by cementing a $\frac{1}{2}$ " to 1" layer of foam rubber between two $\frac{1}{2}$ " to $\frac{3}{4}$ " plywood boards. The bottom board should be about 1" larger than the top, in order that the hold-down screws will not be covered. The compass



Three different types of marine compass, including from left to right: early Ritchie liquid compass, known as the "Pioneer"; standard Navy liquid float compass, with azimuth circle; and the "Globe Master" hemispherical compass.

should be fastened to the top board only, so that the compass "floats". Thus, the rubber absorbs the shocks, leaving no rigid connection between the compass and boat. This materially prolongs the life of the compass.

Since the War, numerous surplus compasses have found their way aboard small vessels. Some types have proved fairly satisfactory, with the exception that they possess somewhat inadequate gimbaling of the needle system, and also, are not intended to be exposed directly to the elements.

Should Check Condition of Jewel and Pivot

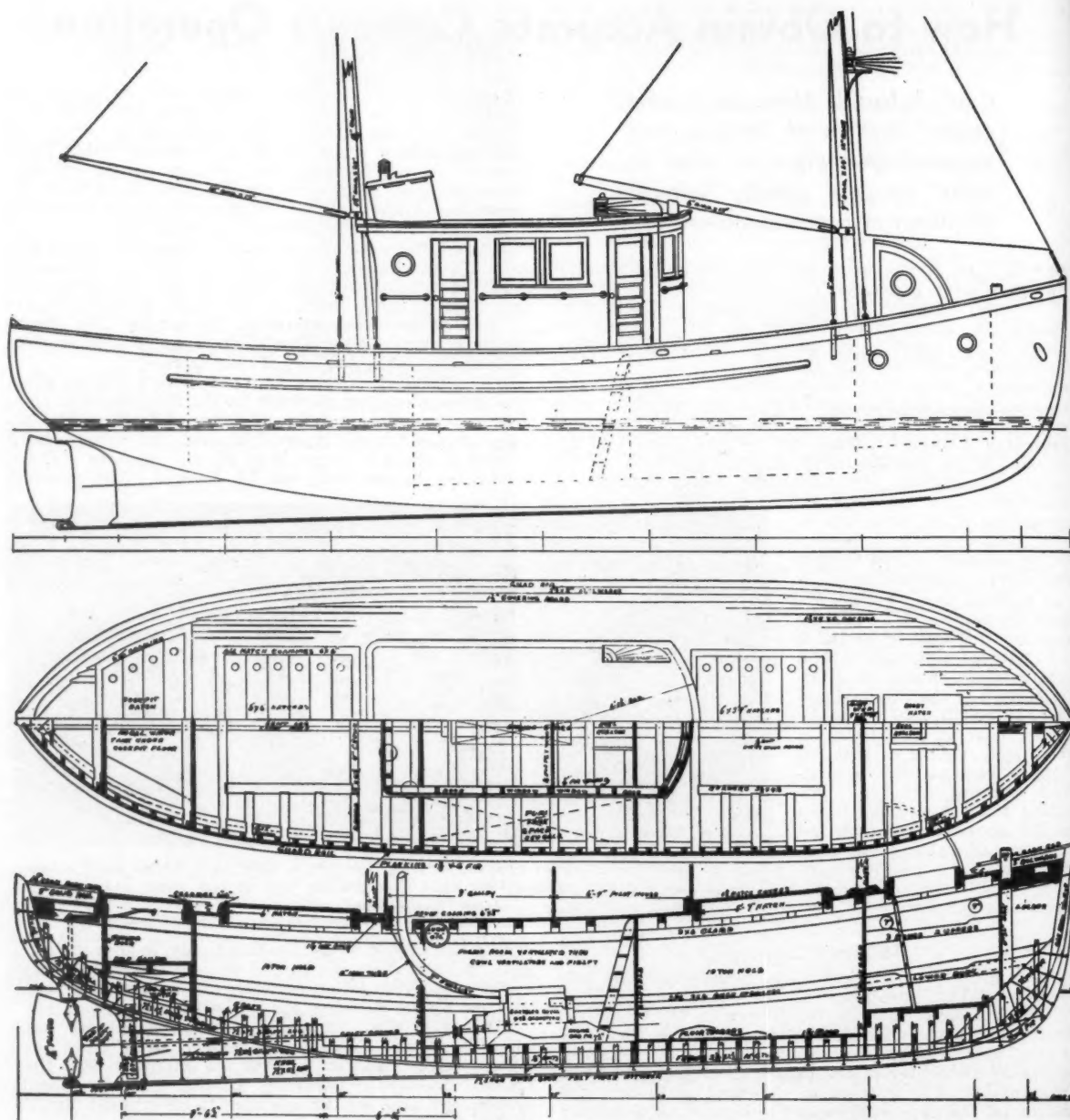
Before purchasing any compass, the condition of the jewel and pivot should be checked, particularly on a surplus or secondhand instrument. To do this, first observe the exact reading of the compass card at the lubbers line, then take a knife, screwdriver, or any piece of iron or steel, and hold it just near enough to the compass to displace the card one or two degrees.

Remove the steel and watch carefully to see whether the card returns to exactly the original reading. If it falls short of returning to the exact point by more than one-half degree, the compass should be rejected or, if purchased, sent for an overhaul of the jewel and pivot. The float compasses made for the Navy are required to be sensitive to within $1/10^\circ$, and it will be found that most new float compasses can meet this tolerance.

It is of paramount importance that great care be taken when installing the compass or certain equipment mount-

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* Adjuster of ships' compasses, and dealer in navigational instruments, Wickford, Rhode Island.



Outboard profile and arrangement plans of 50' combination troller, dragger, crab boat and fish packer, designed by Quent Williams of Auburn, Washington.

50-Ft. Combination Fishing Craft Designed for Alaska Waters

THE accompanying plans for a 50' combination boat, which can be used as a dragger, crab boat, troller or fish packer, are by Quent Williams, president of Washington K-D Boat Co., 12 D St., S. W., Auburn, Wash. She is designed for the rough waters off the Alaskan Coast, where a good sea boat is in demand. This vessel is of extra heavy construction, with steam bent oak frames on 10" centers.

Sleeping quarters for four are located in the bow, next a large hold, watertight, with watertight bulkheads fore and aft, large loading hatch on deck, next the full headroom engine room, with fuel tanks on each side, another large hold aft with hatch on deck and watertight bulk-

heads fore and aft, then a large trolling cockpit, with tiller attached for steering. The deckhouse contains the pilothouse, galley and sleeping quarters for two additional men.

"Inside Passage" Regulations

As in past years, United States fishing vessels have been permitted passage between U. S. and Alaskan ports, through that part of Canadian territorial waters known as the "Inside Passage". Canadian regulations, which provide that all fishing gear must be removed from normal operating position, are as follows: (a) gill-nets—net shall not be on drum; (b) seiners—net shall be removed from drum and/or seine table and stowed in hold; (c) trollers—poles not to be rigged; (d) draggers—boards to be stowed inboard; (e) long-lines—hooks to be unbaited.

Crabbing Is Million-Dollar-Industry in Virginia

By C. V. Forrest

THE blue crab has forged ahead in importance in the Virginia shellfish industry, until it now ranks second to the oyster. Virginia's yield of blue crabs in 1954 accounted for \$1,638,000 of the State's \$11,898,000 shellfish production. The crab pot is responsible for about two-thirds of the Virginia hard crab catch; with trot lines, scrapes, fykes, and dredges other types of gear used.

The early American Indian found that the supply of blue crabs was unpredictable, and ever since then, to some extent, the availability of the blue crab has fluctuated. Efforts toward management of the blue crab resource seem to have been based on the belief that fishing operations have been responsible for the periods of low abundance.

Following a poor crab season in 1940-41, Virginia established a sanctuary for sponge crabs near the mouth of the bay, where spawning females congregate. The catches increased sharply well into 1952. Then in 1953, the production in the Winter dredge fishery, dropped off considerably.

Scientists believe that excessive protection of Virginia's blue crabs could result in an over-all loss to the seafood industry, with no advantage to future crab abundance. All crabs should be caught before they die a natural death, making allowance for spawning escapement, according to the scientists. But it is not known as yet how many crabs should escape to spawn.

Much of the basic information required for crab conservation can be obtained by a comprehensive tagging program, an adequate system of catch records, and an annual measure of the success of spawning, according to J. L. McHugh, director of the Virginia Fisheries Laboratory. Ill-advised legislation can adversely affect such a crab management program. For example, Virginia had a law until July 1956 prohibiting one licensee from operating more than 50 crab pots. Such a law could not be enforced, so correct records of tagged crabs being caught were unobtainable. No one would admit having more than 50 pots.

The development by W. A. Van Engel of the Virginia Fisheries Laboratory of a tag that remains attached to the crab through shedding and the formation of a new shell, is a significant milestone in crab research. And skin diving, just put into practice by the Virginia Fisheries Laboratory, promises a revolution in eliminating guesswork about what is going on among the animals of the sea.



Eugene Brooks processing crabs at the Adams Packing Corp., Gwynns Island, Va.



Crabbers at New Point, Va., bringing their morning catches to sell to the 45' crab runner "Mary E.", which will take them to processing plants in Hampton. The "Mary E." is powered with a 185 hp. General Motors Diesel, and is skippered by Capt. Chase Morgan.

How Crabs Are Marketed

A special industry is the marketing of the soft crab. Actually, very few soft crabs are caught, so crab houses and crab pounds are set up to handle peelers. These are found in the greatest abundance along the eastern shore of Virginia, and in the Piankatank, Rappahannock, and Potomac Rivers. The pounds in which the crabs are kept consist of a group of floats tied to stakes, with often a fence or breakwater.

Brought to the shedding house, the crabs are sorted according to their condition of shedding, and each group is placed in separate floats. During the peak of the season, a shedding house may handle as many as 40,000 crabs a week, and they must be examined every hour or so day and night to pick out the newly-moulted soft crabs. The crabs are graded and packed one against another in layers, iced ready for shipment.

Hard crabs, on the other hand, are prepared for market as cooked crab meat. Meat is graded as deluxe (lump or backfin), flake, and claw; packed in tinned steel cans, and iced for shipment. A few of the largest male crabs, referred to as "jimmies", are shipped alive direct to large cities for resale at seafood bars or as steamed hard crabs.

Shells are sold as containers for baked crab meat, or deviled crab, and the remainder of the scrap is dehydrated and ground for use in farm animal feed.

Virginia soft crabs and crab meat have a good reputation and a bright future. A Newport News firm, beginning with frozen "crabburgers" in 1946, has grown into a general frozen seafood industry, and is now producing from 10,000 to 12,000 packages of seafood daily. At present the company is enlarging its plant and doubling the number of workers.

Life History of Crab

Hatching occurs in the Chesapeake Bay during the months of June, July, and August, when the crab is around two years old. Its life span is believed to be three years. A female produces approximately two million eggs, which are attached to her in a large yellow mass called the sponge.

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70' x 22' x 6' oyster dredger "Columbia", owned by Northern Oyster Co., Inc., Greenport, N. Y. The boat's capacity is 2500 bu. of oysters. She has a 330 hp. General Motors Diesel power plant with 4:1 Twin Disc reduction gear and 56 x 32 Columbian propeller. Surrette batteries and Gulf H.D. lubricating oil are used.

Chemical Control of Shellfish Enemies Promising

Oyster drills, crabs and flat worms among predators studied

by V. L. Loosanoff, James E. Hanks and Anthony E. Ganaros*

WORK in developing methods for chemical control of shellfish enemies was initiated in 1948 at the Milford, Connecticut, fishery laboratory on a small scale, and was resumed on its present basis approximately two years ago. Hundreds of samples of various substances, mostly of organic nature, have been "screened" by Fish & Wildlife Service scientists to determine their effects upon molluscan enemies.

Some of these enemies are snails, usually called drills or borers, that drill holes through oyster shells and consume the meats. Starfish and crabs also directly attack oysters. Sponges establish on the shell and within a short time honeycomb throughout it. Some worms kill the oysters and eat their meats, and another group of worms lives in tubes formed within oyster shells, sometimes causing considerable damage. Several other groups of marine animals, such as sea grapes and slippery limpets, and sometimes mussels, although they are not direct enemies of oysters, often compete for food and space.

Thus far, several compounds have been found which show some promise toward the control of oyster drills and slippery limpets. Work in this direction is being continued. Several more promising chemicals have been found to control oyster worms and sea grapes. These chemicals may be used in dikes, such as those of the Olympia oyster industry, and in small ponds and claires, where necessary concentrations of the chemicals could be created to kill such important oyster enemies as the flat worm, or to control *Stylochus* of the Atlantic Coast, which kills thousands of bushels of young oysters annually.

Dissolved chemicals also can be used in controlling another worm, *Polydora*, that lives in the oyster shell, and the worm *Sabellaria*, that often smothers the oysters or scallops on their beds.

Solutions of the chemicals could be conveniently used on boats when transplanting oysters or cleaning the oyster beds. Under these conditions, dredgefuls of oysters could be dipped into vats containing such solutions and then, after a brief immersion, left on the deck for some time before planting. Such treatment might be sufficient in many instances to kill the worms.

Methods of Using Chemicals

Several methods of using the chemicals have been devised, including the following:

*Dr. Loosanoff is director of the Fish & Wildlife Service Laboratory at Milford, Conn., where the shellfish enemy studies are being conducted, and the Messrs. Hanks and Ganaros are associated with him.

1. Dissolved in water. This approach may be practical to kill oyster enemies in small, isolated bodies of water, such as salt water ponds, claires, dikes and large tanks, or for dipping into the solution oysters which are infested with enemies, such as sponges, worms, barnacles and, perhaps, some internal parasites.

2. Precipitated as a thin layer on the bottom over shellfish beds to repel enemies, such as drills, starfish, crabs, etc.

3. Combined with shell material of oysters, rendering it unsuitable for the existence of sponges, worms or other shell-dwelling organisms. This method even might discourage drills from drilling the shells of oysters.

4. Incorporated in food to be eaten by molluscan enemies, such as crabs, prawns, etc.

In testing the various chemicals on shellfish enemies, their effects also are observed on the behavior of oysters, clams, scallops and other useful animals. It is clear that if a chemical destroys an enemy but at the same time kills oysters or clams, it is of no value except, perhaps, in certain special instances of pond culture, where it might be desirable to exterminate an inferior local shellfish population to introduce a better race.

Chemicals Kill Green and Horseshoe Crabs

It has been discovered that several chemical substances are extremely promising for the control of a large group of direct or indirect shellfish enemies, including green crabs, horseshoe crabs, prawns and shrimps. Some of the chemicals have been found to be effective in solution in sea water, others as food poisons, while several could be effectively used either way.

The chemicals have been utilized to combat eleven species within the phylum Arthropoda. These include the rock crab, blue crab, lady crab, mud crab, green crab, hermit crab, spider crab, common sand shrimp, mantis shrimp, copepods, and the horseshoe crab. The research showed that all these forms can be quickly paralyzed and killed.

The most striking results were achieved by using some of the chemicals provided by Chemagro Corporation, and used in preparation of such insecticides as Guthion and Dipterex. Results also have been achieved by incorporating in the bait other insecticides, such as the well known DDT, which was found several years ago to be extremely effective in control of barnacles and which, since then, has been widely used in oyster culture in Great Britain and other European countries.

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New Bedford Fleet Loses Two Draggers in Fires

Two draggers, members of the New Bedford fleet, burned and sank at sea during November. All hands aboard both boats were saved.

The 59-ft. scalloper *Agda*, owned and skippered by Capt. Ralph H. Clattenburg, caught fire and sank in rough seas 28 miles southeast of Montauk Point, Long Island, on November 8. Her five-man crew was taken from a dory by the New Bedford scalloper *Sea Hawk*. The vessel was built in Rockport, Me. in 1934.

The dragger *Ponce de Leon*, which had been fishing out of New Bedford, burned and sank on November 1, 14 miles southeast of Block Island. Her crew members took to a dory when they could not bring the fire under control. The men were rescued by the Gloucester dragger *Little Sam*. Joaquim Canas of Gloucester owned the ill-fated craft, which was formerly a shrimp boat out of St. Augustine, Fla.

Scallopers Turn to Clam Dredging

Two New Bedford scallopers, the *Martha M. Murley* and the *Monte Carlo*, are at Cape May, N. J., dredging for sea clams. The relatively new industry was attempted in New Bedford more than a year ago, but operations never got under way fully, although the Pocahontas Clam Co. still is attempting to relocate at a waterfront site.

The *Sunapee*, owned by Armlief Beck of North Dartmouth, is quahogging out of New Bedford. The 51-ton vessel has a water jet system and sells her quahog meats in New Bedford and other Cape Cod ports. She was sea clamming out of the New Jersey port before returning to New Bedford to try out the quahog venture.

Stone Horse Lightship to be Returned

Stone Horse Shoal Lightship in Pollock Rip Channel, removed temporarily August 20, will be returned to its station this month. The ship was used as a turning point by the New Bedford fleet going to and from Georges Banks. Pollock Rip is treacherous, and the removal of the lightship was protested by New Bedford commercial and sports fishermen.

Open Clark's Cove Area to Dredging

The New Bedford City Council on November 23 adopted two resolutions, one of which will allow quahog dredgers to work the southern area of Clark's Cove, and the other to eliminate quahog poaching in city waters. Dredging will be permitted south of a line from the Portland St. stack to the Sol-e-Mar stack in South Dartmouth and within the city line.

High Haddock Price

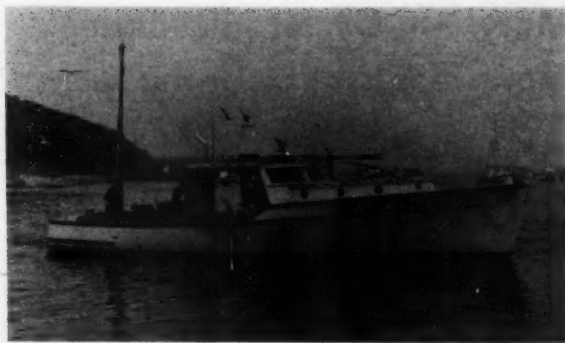
Haddock sold for 20 cents a pound recently in New Bedford, a level not attained in several years. Depletion of surplus frozen stock, cleaned out because of sparse landings during the previous week, was responsible for the sharp rise in price.

Price for yellowtail was 23 cents a pound on October 29, which contrasted greatly with the 4 to 6 cents a pound bid on October 17.

Changes in Shellfish Regulations

Fairhaven Selectmen last month approved three recommendations submitted by the town's shellfish warden to protect and make more prolific the shellfish in town waters. The area between Long Island and West Island, north of the causeway road to the north end of Long Island, then easterly to Round Island, shall be closed starting December 1, for the propagation of clams, quahogs and scallops.

Jack's Cove and Deacon's Cove will be opened for the taking of oysters, clams and quahogs. Oysters, however, may not be taken there commercially.



The 41' line trawler "Columbia" at Chatham, Mass. She is owned by Capt. Antone De Costa, Provincetown, and powered with a 4-71, 87 hp. General Motors Diesel with 2:1 reduction gear, which gives her a speed of 14 knots. The boat fishes for cod and haddock with a crew of three, using 5-0 Pflueger hooks on Burnham lines.

The present line for power dredges has been moved south to a line drawn from Brown's Pavilion west to Egg Island to protect the seed scallops in Priest's Cove.

Cold Storage Plant Damaged by Fire

The Fairhaven Cold Storage Corp., formerly known as Mullins Freezer, was damaged by fire November 15 to the extent of \$25,000. It was reported that 800,000 lbs. of fish on the first floor were damaged. An additional 1,500,000 lbs. were stored on the second floor of the freezer.

Provincetown Regulation, Provides For Covering Small Shellfish

The Provincetown regulation concerning shellfish has been amended, providing for the burying of shellfish too small to be taken for use. In the past, small shellfish have been discarded on the surface, allowing sea gulls to feast on them.

The new section reads that any person who uncovers shellfish too small to take shall not leave them on the surface, but shall bury them immediately.

"Queen Mary" Goes Aground

The 48-ft. Provincetown fishing boat *Queen Mary*, Capt. Anthony Russell, suffered considerable damage last month when she ran aground in high winds, being tossed up against a bulkhead and onto rocks. The vessel was hauled off into deep water by a Coast Guard patrol boat.

Dragger Launched After Repairs

The 51-ft. Provincetown dragger *Aerolite* was launched last month after being repaired at Taves Boatyard. She will sail with a new skipper, Capt. Joaquin Peters. The boat several weeks ago went adrift and grounded on the beach near the West End parking space.

Scallopers Get Limit Quickly

Approximately 20 shellfishermen worked waters in Anthier's Pond on the Vineyard on the opening day of the scallop season November 5, with another 15-18 going to Cape Pogue Pond. The first day's catch was made in rapid time, and the quality of the shellfish was found to be good. However, the fishermen reported that the supply did not seem heavy.

At Chilmark, where scalloping is done in Menemsha Pond, the scallops were of excellent size, cutting 24 or more pounds to a bushel, and the price was good. Nevertheless, it is certain that there are not many scallops to be taken from the pond.

Maryland Oysters Becoming More Plentiful in Upper Bay

After being very scarce for about ten years, oysters are becoming more plentiful in the upper Chesapeake Bay area facing Baltimore. For some unknown reason, oysters in that area died out in 1945, but in the last three years they have been increasing and this year they show a tremendous sign of life.

Oyster dredges, skipjacks and bugeyes under sail have been doing particularly well in the upper bay.

An increase in oyster shucking operations was noticed in many of the Crisfield oyster packing houses last month, as orders for shucked oysters for the holidays began to come in. Shell-stock oysters have not been too plentiful this season, and the price has been high.

Shell-stock from Holland's Straits has not been coming into market in as large a quantity as last year. A number of local tongers who were operating in that section are now tonging in Pocomoke Sound.

Oystermen have been doing pretty well, receiving from \$3 to \$4 per bushel for what oysters they take.

New Idea for Rockfish Conservation

Delegate Lloyd L. Simpkins, Somerset County lawmaker, waterman and attorney, has come up with what he calls "a new approach to the rockfish conservation problem in Maryland." He proposes that his plan be adopted by the Legislature.

Many of the rockfish spawning areas in the State have been definitely located and defined, as a result of a program being carried out by the Chesapeake Biological Laboratory. These spawning areas are relatively small in size and are situated in various parts of the Chesapeake Bay and its tributaries.

Delegate Simpkins said his proposal would ban fishing in these particular isolated areas during the spawning season. Fishing still would be permitted in the Chesapeake Bay and its tributaries in spots not defined as spawning areas.

Soft Clam Production Shows Gain

According to the "Maryland Tidewater News", soft clam production in Maryland during July, August and September averaged more than 18,000 bushels a month, an increase of 40% over the corresponding period in 1955. A gain of 37% in the number of boats licensed to dredge closely parallels the increase in catch.

For several years there have been protests from oyster tongers that the hydraulic dredge was destructive to oysters. The Maryland Dept. of Research and Education has been carrying on a study to evaluate the effect of this type of dredging on other resources.



The "Miss Nomini II", 45' x 12' x 3' commercial fishing boat owned by Capt. James LeRoy Thompson of Palmers, Md. She has a loading capacity of 9 tons, and is powered with an 8-cylinder, 145 hp. Chrysler engine with 2:1 reduction gear.

It is believed their studies will show the extent to which bottom sediments are displaced by hydraulic dredging, and the effect of such displacement on oysters. The results of this study are to be reported in January 1957 for consideration by the Maryland Assembly.

Wants Hand Scraping Allowed in Potomac

Egbert L. Quinn of Crisfield believes that Maryland could raise its oyster production quickly by permitting hand scraping in the Potomac River and in the Chesapeake Bay. This would furnish many thousands more bushels of oysters for packers and for the retail trade.

He says that outside the tonging areas in the Potomac River are thousands of bushels of unutilized oysters. These oysters could be taken with hand scrapes without damaging the rocks, and in fact, this could help develop the rocks into greater production, Mr. Quinn believes.

He feels that the oyster industry would take a new lease on life with the use of modern methods and permission to take oysters in the Potomac River. Mr. Quinn says that Maryland needs a larger supply of oysters so that fresh shucked oysters could be offered at retail at prices housewives would find attractive enough so that they could serve oysters on their tables regularly.

Oyster Lease Petitions Rejected

Two petitions for 30-acre private oystering leases in Upper Fishing Bay, Dorchester County, were rejected last month by the Circuit Court. Some 200 watermen were present. Lawyers representing those fighting the leases told the court the waters of the area were essential to the watermen's livelihood.

Rhode Island Clammers Make Fine Hauls in Narragansett Bay

More than 200 fishermen shared last month in the harvest of hard shell clams transplanted by the Division of Fish and Game last September in the waters of Narragansett Bay. In spite of sharp, biting winds that buffeted their small boats, most of the fishermen realized good catches on the opening day.

One fisherman returned to Warren in mid-afternoon November 13 with more than 100 pounds which he sold to a dealer for 10 cents a pound, along with a quantity of cherrystone and chowder-size quahaugs which brought four cents a pound.

The Division of Fish and Game also transplanted approximately 10,000 bushels of quahaugs in Potter's Cove last September, and those grounds were to be opened sometime this month. An additional 9,000 bushels taken from polluted waters have been transplanted between Portsmouth and Hog Island, and those grounds also will be opened sometime this month.

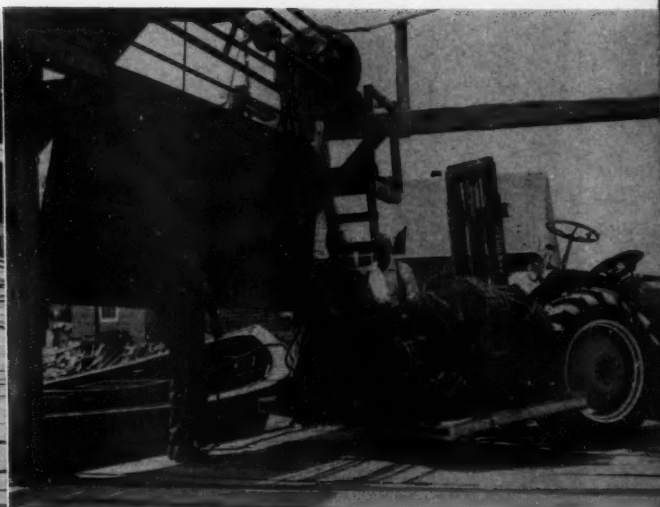
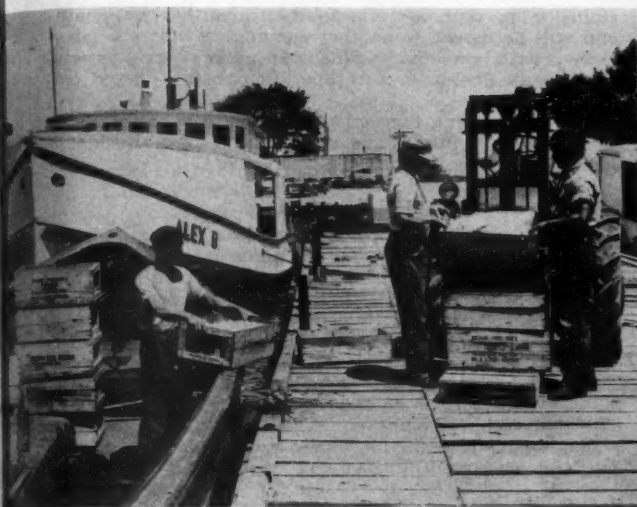
Finger Pier Project By-passed

According to Joseph H. Lewis, head of the Point Judith Fishermen's Co-operative Assoc., the State Dept. of Public Works has not approved the appropriation of funds to build additional finger piers at Galilee. The by-passing of this project, according to Mr. Lewis, will hamper the port's commercial fishing industry.

Quahaug Dredging Area Opened

Mechanical quahaug dredging was to be permitted in an area of Narragansett Bay starting December 1. The area is bounded by the Mount Hope Bridge, the Hog Island Shoal Light, Nun-buoy N-18 and the Homestead dock, Prudence Island on the north and east, and on the south by the Navy dock on Prudence Island.

Warnings have been given dredgers to be extremely careful of the cable between Prudence Island and Portsmouth and to observe the pollution line along the Portsmouth shore.



Left: A Sherman fork lift attached to a Ford tractor being used to transfer heavy boxes of fish from boats owned by H. Getty & Sons, Wheatley, Ontario, to the cold storage plant. At right, nets being handled by the fork lift.

Fork Lift Speeds Handling Of Fish and Nets for Lake Erie Fishermen

ALTHOUGH commercial fishing on Lake Erie is still a man-sized job, the problem has been notably lessened by modern production methods and power equipment. The handling of tons of fish in 100- to 125-pound boxes; lifting, repairing, cleaning and tarring of bulky nets, and many other odd jobs, call for plenty of work. But H. Getty & Sons, a fishery which has operated for almost 40 years in Wheatley, Ontario, has found a solution—a Sherman hydraulic fork lift attached to a Ford tractor.

"This mechanical-hydraulic team eliminates heavy lifting and speeds up the operation, besides reducing overtime," says Darrel Getty, one of the three sons who has worked with his father for 23 years.

Operating in Lake Erie and in the vicinity of Pelee Island and Point Pelee, Ont., the Getty firm has two gill-net boats, a cold storage plant, and a number of buildings and sheds. A ton of fish to a boat is considered a good haul by Getty & Sons, but the catch can range from 50 pounds all the way up to 25 tons. One Spring recently a haul of smelt went to 25 tons, which would have required a good deal of manpower and heavy labor, without the fork lift.

"When the fish were running, we sometimes had to keep four to six men overtime as many as six nights a week to help load cold storage vans and trucks," Mr. Getty declared. He continued: "Now that we have the Sherman fork lift, the crews can stack the hundred-pound boxes of fish on pallets during the day—15 to a pallet. One man easily can load 300 to 400 boxes with the fork lift."

Another major production job for the fork lift is handling bulky nets. When the nets are brought in for cleaning, repairing, and tarring, they are lifted out of the boat by a huge reel on the dock. They are hosed down, then dropped on pallets and hauled away by the fork lift to have necessary repairs made.

The fork lift speedily brings them back to the reel when they are needed again. "For example," said Mr. Getty, "use of the fork lift to pick up nets out of the field and load them into boats saves a four-man crew four hours, and enables the fishing boats to get out hours

earlier. Instead of four nets a day, the men now can set six."

Also carried by the Sherman fork lift—two at a time—are 500-pound drums of the dip used to coat the nets. Inasmuch as handling is no problem, the nets can be transported to any convenient distance from the tarring sheds.

Lift poles, which range from 35 to 60 feet, ordinarily are another cumbersome problem in the fishing business. The poles support the nets on the fishing grounds. The handling of these poles is managed efficiently by the fork lift, which carries them to the shoreline where they are floated out to the fishing grounds.

Boat maintenance also is simplified for the Gettys with the help of the fork lift. A welding unit used for boat repairs has been compactly arranged and attached to a pallet. This is easily carried anywhere on the lot and placed next to the job.

Alabama Fishermen Have Narrow Escape

Two Dothan, Ala. fishermen, Sam Hetchcock and Sonny Geljerstedt, were fishing off St. George Island at the mouth of Apalachicola Bay recently when the wind increased and their boat capsized before they could reach shore. For 13 hours they clung to the sides of their boat until at last it was washed up on a grassy oyster bar off the island.

After a sleepless night lying in mosquito-infested grass, they dragged their boat to the island and began exploring it. They found a deserted week-end cabin, and much to their surprise—a telephone, in working order.

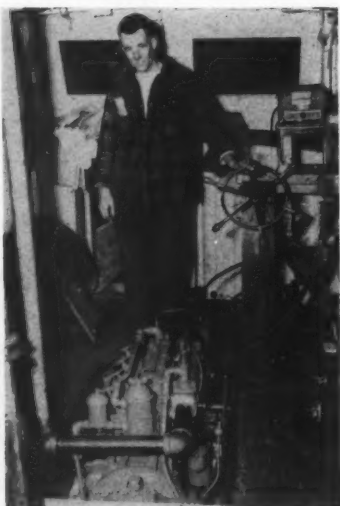
The telephone operator summoned a crash boat from Tyndall Air Force Base, and soon the weary, sunburned men were recovering over a hot meal. They lost all their fishing equipment, including a 30 hp. motor.

Landings Same as Year Ago

Fish and shellfish landings during August amounted to 1.3 million pounds, approximately the same as a year ago.

The catch consisted principally of shrimp, blue crabs, mullet and red snapper.

Crab production was slightly greater than the previous month, with fishermen catching from 700 to 800 pounds per day. The crab meat yield was high, averaging from 15-17 pounds of meat per one hundred pounds of crabs.



Capt. Ray Stoddard of Portland, Me., in the engine room of his 40' lobster boat "Condor". She is powered with D4-45 Red Wing Diesel, rated 45 hp. at 2400 rpm., and sold by Harbor Supply Oil Co. Other equipment includes 2:1 Snow-Nabstedt reduction gear, Hyde propeller, Bendix depth sounder. Gulf oil is used.

Maine Reports Fair Sardine Pack

The 1956 Maine sardine season closed December 1, with a "fair" pack of approximately 2,200,000 cases. The production figure is well ahead of the abnormally short pack of 1,200,000 cases in 1955, but still far below the 2,690,000 case average output for the previous ten years.

Thirty-eight plants from Portland to Robbinston were in operation during the seven-month season, but the fish ran consistently only in waters west of Rockland. Cannermen were plagued with a scarcity of fish in their area for the fifth year in a row, and are patiently awaiting a report from scientists who are endeavoring to find the reason and the cure.

Sales were normal throughout the season, and a sell-out of the pack was indicated before the plants start operating next Spring. Production was of excellent quality, and cannermen were given much assistance along these lines through an industry-wide research and grading program which was launched three years ago.

A thirteen-week advertising and merchandising campaign in the Southern States helped to stimulate sales in that area.

Fish were very scarce at the start of the season and became more abundant in early June, but the run was spotty, except in western Maine, for the remainder of the season.

"Metacomet" Uses Power Block for Seining

The ninth and final cruise of the chartered vessel *Metacomet* was made between October 18 and 27, to learn if a New England dragger-type vessel could be adapted to purse seining operations, and to locate herring by echo sounder and visual observation.

Fish were located in Passamaquoddy Bay, Grand Manan Channel near Cutler, Trinity Ledge on the coast of Nova Scotia, Isle Au Haut Bay and West Penobscot Bay. Trial sets of the purse seine were made in Linekin Bay and Penobscot Bay. Purse lines were pulled through blocks on a seine davit to winch heads on the trawl winch and the seine was hauled aboard with a Puretic Power Block. These trials demonstrated that a purse seine can be set and hauled using this type of vessel, properly equipped.

Sardine Plant Moving from Rockland

Holmes Packing Corp. is in the process of dismantling the smaller of its two sardine packing plants at Rockland. The Belgian automatic sardine processing machine in-

stalled a few years ago was nearly dismantled last month, and will be moved to another community where a labor force is readily available. The main plant of the firm will continue in Rockland, with operations being carried out as usual.

The two sardine carriers of the firm, the *Mary Anne* and the *Jacob Pike*, have been moved from Rockland registry to Lubec.

Oppose Construction of Weir

A petition with about 75 signatures protesting the establishment of a weir off Vinalhaven was presented to the Vinalhaven Board of Selectmen last month. Clyde Bickford of Vinalhaven had requested the Board to approve establishment of the weir, which would be located at the southern side of Dyer's Island near the approach of Peaslee's Cove.

Several lobstermen and seiners of the area protested the weir construction on the basis that it would interfere with their fishing operations. The establishment of such a weir would prohibit lobstering within 300 feet of the weir and seining within 2000 feet.

Bay Scallop Mortality

Sea & Shore Fisheries Department research director Robert Dow recently reported that the bay scallop yield up to November 30 included many unaccountably dead shellfish. He has asked for samples to determine the cause of the high mortality rate. He theorized it could come from too high a concentration of fresh water near the scallop bed or too abrupt a change in water temperature.

Two New Lobster Boats

The 32' lobster boat *Ethelyn Mae* has been completed at South Thomaston by the Makinen Shipyards, for Wellman Hupper of Friendship. She is powered with a 115 hp. engine.

The *Dorothy M.*, a 32' lobster boat built by the Rockland Boat Shop for Alfred Stanley of Monhegan Island, was launched November 19.

Maine Leads in Lobster Production

Lobsters represent a good-sized New England industry, and Maine leads not only the region but the nation in total poundage. Last year Maine lobstermen hauled in 22,718,000 lbs.—a record for modern times. This constituted 85 percent of the nation's lobster catch. Massachusetts ranked second Nationally.

"Silver Bay" Studying Early Life of Herring

The fourth cruise of the charter vessel *Silver Bay* began November 13 from Portland. As in the two previous cruises, the Canadian research vessel *Harengus* followed a cruise line along the coast between Cape Cod, and the southern tip of Nova Scotia, while the *Silver Bay* traveled the offshore waters between Nantucket Shoals and Sea Island, Nova Scotia.

The purpose of the cruise was to obtain information on the herring's early life. From previous trips, it appears that herring spawning in the Gulf of Maine has been completed.

Lobsterman to be on TV

Plans are being made to have Port Clyde lobsterman Charles Cushman and his family appear on Dave Garroway's Wide World television program. Mr. Cushman, 70, has been a lobsterman all his life. He has seven sons, a daughter and a step-daughter.

The program will show him and his sons, some of whom are lobstermen, working at their traps, the boats arriving in port and a big family reunion, dinner and singing in a small Summer hotel that will be opened specially to accommodate the family and the television equipment.

The program will be televised the Sunday before Christmas, unless it is too dark at that time, in which case a similar program may be arranged around Easter.

Virginia Oysters Are Bringing High Prices

Oysters dominated the seafood industry around Thanksgiving time, with oyster houses and dredging outfits working overtime trying to fill all the orders. There were some shortages due to the demand and the damage to oysters by the hurricanes of 1954 and 1955. The leased grounds in the upper Rappahannock, which formerly produced around one million bushels a year, have not come back into the market and may not produce for another year.

The unprecedentedly high prices attracted more tongs to the public oyster grounds than have been seen there in recent years. Some oystermen took as high as 30 bushels or more per day, according to luck in finding lush spots and adeptness in tonging.

Prices of seed oysters in the James have been raised this year, and hauls have been good, bringing more tongs than usual to the James. Production of shucked oysters in the Hampton Roads area for October was more than 90,000 gallons.

Crab Dredging Starts

Dredging for crabs started in Virginia waters this month, and previous to the opening of the season the marine railways were busy painting, repairing, converting and otherwise readying the boats for the season.

Prospects for crab dredging looked good early this month, and a fleet of ten Tangier boats was ready to sail for the crab-dredging grounds in the Chesapeake Bay near Cape Charles. While the season opened the first of December, most of the fleet waited until the third to sail for Cape Charles.

Mathews County crab potters and trotliners were enjoying very good catches last month, with some crabbers bringing in from 12 to 16 barrels per morning, according to Charles H. Haywood, who, with his five sons, operates a crabbing dock on Davis Creek.

Crab meat this Fall has sold at high prices, which usually prevail only in Winter months. This is because of the great demand for the commodity.

Menhaden Catches Drop

The five active menhaden meal and oil factories in Virginia reported a decline in catches in September, as compared to September last year. The menhaden fishery is the leading one in Chesapeake Bay, both from the standpoint of quantity landed and the value of the catch.

Davis Creek Wharf Completed

The \$10,000 public wharf has been completed on Davis Creek, Mathews County, and is now in operation. Lionel Haywood, seafood buyer and shipper, is building a wharf near this public dock. It will be approximately 100 ft. long by 30 ft. wide. Mr. Haywood is one of the leading fish buyers in the Mathews County section, and has several trucks operating in shipping his produce to near and distant locations.

Wicomico Oyster Rocks Opened

Small oyster rocks in the Wicomico River on the Western Shore of Virginia have been opened to Virginia tongs. Recently five Tangier tongs in their drake-tails began work on these rocks. According to reports, they found oysters scarce, but what they did take they sold for a good price—from \$3 to \$3.50 a bushel.

Danish Scientists Visit Laboratory

Two Danish scientists, Aage M. Christensen and his wife, Grete, of Copenhagen, paid a visit to the Virginia Fisheries Laboratory last month.

Hampton Roads Area Landings

Totaling 963,100 lbs. during the month of November, Hampton Roads area landings showed a decline of more



60' trawler "Lightnin", owned by the Louisiana Fisheries and Fuel Oil Co. of Delcambre, and skippered by Capt. James Sonnier. She is powered by a Caterpillar D13000 Diesel, and has a 160-barrel capacity hold. The vessel is equipped with Bendix depth finder and Metal Marine automatic pilot.

than half a million lbs. from October, and were over a million lbs. less than in November of last year. Pound net catches amounted to only 70,800 lbs., reflecting a seasonal decline in this type of fishing. Scup, with 526,900 lbs., was the leading variety landed by the trawlers.

Louisiana Oyster Losses Blamed on Fungus

The American Petroleum Institute said on November 24 that a study which cost oil companies two million dollars has proved that a fungus was attacking oyster beds off the Louisiana coast. Previously, offshore oil operations in the Gulf of Mexico were blamed for oyster mortality in that area.

The Institute said oystermen received information in the companies' study which they could not have gotten independently.

Discovers New Shrimp Grounds

Martin D. Burkenroad of New Orleans, who has been working in Panama and Costa Rica on assignment for the Food and Agriculture Organization of the United Nations, has found what may prove to be a large new shrimping ground off the Pacific Coast of Costa Rica.

The extent of the new shrimp resource is not yet known, but it is situated in about 30 fathoms of water some 45 miles from the nearest fishing port. Burkenroad reported that a trap in the outflow often produced as much as half a ton of shrimp per night, and an average yield of 50 tons per square mile per year seems possible on a capital investment of less than \$1000.

He said part of the catch was shrimp large enough to sell fresh, while the rest was sun-dried. The average size was suitable for canning.

Shrimp Landings Light

According to report, catches of shrimp brought into the Morgan City area during November were considerably less than in the same month last year. October's production for the Morgan City-Berwick-Patterson area amounted to about 200,000 pounds, and was also lower than the same month last year. Many independent trawler owners have been unloading at Port Arthur and Galveston, Texas, and Cameron, La.

Indications were, however, that December would be different; shrimp were beginning to be caught in larger quantities around Ship Shoal, the fishing grounds most accessible to Morgan City.

Gloucester Draggers Damaged in Mishaps

The 72-ft. dragger *Ocean Clipper*, Capt. Reginald Pike, struck a submerged object about 40 miles west of Sea Island, Nova Scotia, last month, and had to be towed into Gloucester. Calls for assistance were sent out and the Coast Guard cutter *Yukutat* and the Rockland tug *Snohomish* were dispatched.

The *Ocean Clipper* is one of the newer boats in the Gloucester fleet. She was built in 1949, and is owned by James H. Murray of Chelsea, Mass.

Fire that caused an estimated \$15,000 damage wracked the dragger *Edith L. Boudreau* last month shortly after she had come off the ways. Her owner is David Ribero.

Severely Burned in Explosion

Gaetano DiMercurio, 60, owner and skipper of the *Eva M. Martin*, was severely burned about the hands and neck last month when a leaking propane gas stove exploded. The dragger was badly damaged by the blast. The forward deck over the fo'c's'le was split and lifted up a couple of feet, and the whole forward section below decks was blasted to a shambles.

Capt. David Lopes Maranhas

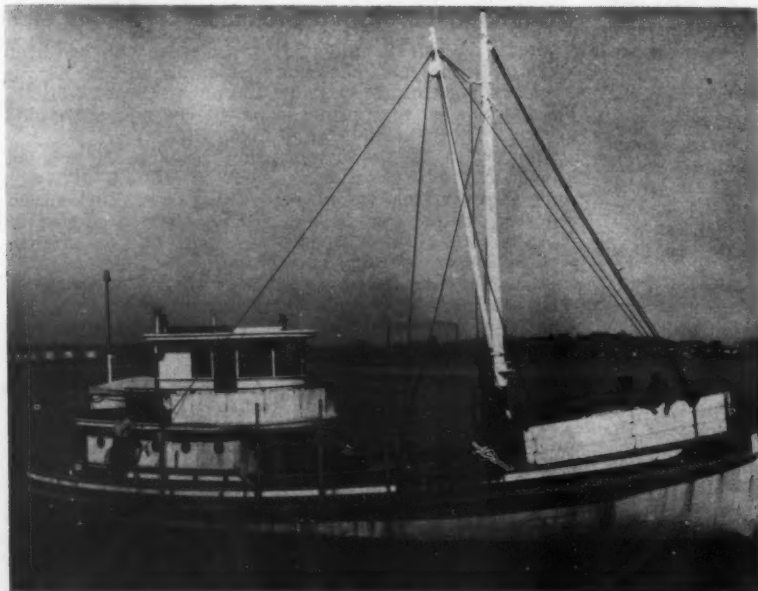
Capt. David Lopes Maranhas, 75, died on November 24 after a short illness. Cap'n Dave was well known by fishermen and was one of those instrumental in the successful inauguration of the Portuguese Fleet Blessing.

He was manager and treasurer of the Gloucester Oil Supply Co., president of the Gloucester Machine Shop and vice-president of United Fisheries Co. In 1930 he interested other skippers to join with him in the purchase of a harbor oil supply boat, which they named the *Mayflower*, and which Capt. Dave commanded for years. Later he had a new harbor oil supply boat built, which was christened *Capt. Dave*.

His other commands included the gill-netters *Mary F. Ruth*, and *Quoddy*, and the schooners *Fannie Belle* and *Vasco da Gama*. He owned the latter two craft.

"Abram H." Gets New Batteries

A new set of Series MLL15 heavy duty 32-volt Bowers batteries have been installed in the 80' scalloper *Abram H.*



61' oyster boat "Catherine M. Wedmore", owned by George D. Wedmore of New Haven, Conn., has a capacity of 1300 bushels. The vessel uses Mobil fuel and lubricating oil, and has 150 hp. Wolverine Diesel with 34 x 46 Columbian propeller.

The vessel is skippered by Capt. Palmer Rye, and now is owned by Dimar Corp., of which Ernest Flood, Jr. is president and Barney Amero, port captain. The batteries were sold by Nap. J. Hudon Co.

Two Driggers Repowered

The dragger *Charlotte M.*, owned by North Atlantic Fish Co., Gloucester, is being repowered with a D397, 500 hp. Turbo-charged Caterpillar Diesel.

The *Saint Rosalie*, owned by Parisi Brothers and skippered by Capt. Matt Parisi, has a new D375, 300 hp. Caterpillar Diesel. Both engines were sold by Sid Rideout of Perkins-Milton Machinery Co., and have Snow-Nabstedt 3:1 reduction gear and Twin Disc 3:1 front power take-off.

Connecticut Driggers Convert To Eastern Type Rig

A number of Stonington draggers are changing their gear from the Western type rig to the Eastern rig. Most of the draggers had previously used the Western rig, by which towing is done from blocks in the rigging, but the majority of the draggers are now converting to the Eastern or gallows type, by which towing is done from the side.

Most of the skippers who are converting to this type feel it will be safer and that there will be less chance of crewmen being lost at sea. They also say they will be able to fish in rougher weather than in the past.

Vessel from Maine Joins Fleet

Stonington's dragger fleet will soon be augmented by another vessel. The 66-ft. former lobster carrier *John McLoon* was recently purchased in Rockland, Me., by Capt. Joseph Maderia of Stonington.

The vessel, which will be one of the biggest in the fleet, was at Fairhaven last month getting fitted out for dragging. She will be brought to Stonington as soon as the necessary work is completed.

Experiment with New Drill Control Method

On the basis of experiments conducted by the Fish & Wildlife Service Laboratory at Milford, Conn., a simple method has emerged which may be practical for controlling oyster drills in many areas. The method consists of burying the drills under several inches of bottom material. This can be easily accomplished by using modified types of such devices as agricultural plows to turn over layers of bottom soil several inches deep and, thus bury the drills. Prior to the use of such plows, however, it may be necessary, in some instances, to dredge from the bottom any accumulation of shells that is heavy enough to hinder the plowing. It is believed that bottom plowing, as a method of drill extermination, would be especially effective if repeated at approximately 2-week intervals.

If the mechanical aspects of the suggested method can be properly developed and refined, it should become of considerable help to the oyster growers in many sections of this country and abroad, where the bottom is soft enough for plowing. Furthermore, the construction and use of plows should be considerably cheaper than such complicated devices as suction dredges. Yet, it appears quite probable that the efficiency of plows will be considerably greater than that of small suction dredges or other devices, such as drill traps.

Great Lakes Fishermen Make Good Perch and Pike Catches

In the Great Lakes region, fishing has been generally light except in western Lake Erie where fishing for yellow perch and pike has been very good. Trap netters, operating along shores, were lifting sizable yields of perch and sending them to local markets. As a result, both Chicago and Detroit receivers were glutted down with more perch than could be disposed of at the time. However, commercial fishing on Lake Erie closed December 10 for the Winter, and receivers were looking to Lake Michigan and Lake Huron producers to fill their needs.

Many of the fishing vessels usually operating on Lake Superior are now laid up for Winter repair, painting, net repairing, replacement of parts and equipment. Both lake trout and whitefish hauls from Lake Superior have been generally light recently, but whitefish have provided nice catches in some instances. Herring production has been good.

Commercial fishing on Green Bay, Bays de Noc and off Menominee has been light. Fishermen, however, reported fairly good catches of herring, chub and yellow perch.

From Lake Michigan, heavy production of lake chubs and yellow perch was evidenced by the landings at docks in Milwaukee, Waukegan, Chicago, and thereabouts. The Beaver Island area also produced some nice catches of yellow perch.

Good catches of yellow perch, chub, sheepshead, bullheads, etc. were made from Lake Huron, but takes of whitefish by both American and Canadian fishermen were notably poor.

In eastern Lake Erie, netting was generally mediocre to fairly good on some species, while on the leading varieties catches were generally poor.

Rainy Lake, west of Lake Superior, produced some terrific catches of whitefish this year. Much of this catch was routed to the Chicago wholesale market.

Find New Method of Netting Mullet

Commercial fishermen who fish for mullet in Lake Erie have found that these fish are more easily caught when a gill net lies flat over the schools than when it hangs vertically. The mullet rise to the gill net, and do not swim horizontally toward it.

Chicago Is Strong Fresh-Water Fish Market

Chicago's yearly over-all seafood receipts have averaged more than 113 million pounds since 1951. During this five-year period, fresh-water fish receipts increased steadily until 1954, when they were 12 million pounds more than in 1951, or approaching a yearly average of about 47 million pounds. Fresh and frozen salt-water finfish receipts averaged 38 million pounds during this period; shellfish products averaged nearly 28 million pounds.

Fresh-water fish receipts at Chicago in 1955 amounted to over 50 million pounds and comprised 45 percent of that year's total receipts. While the demand and distribution of selected frozen marine finfish and shellfish in the Midwest has expanded considerably, fresh-water varieties continue to hold first place on the basis of quantity. Fresh-water fish receipts in 1955 again surpassed arrivals in both the salt-water finfish and shellfish groups.

Gas Well Activities Damaging Fishing

Gas well activities in Western Lake Erie and in Lake St. Clair and Southern Lake Huron have commercial fishermen repeatedly complaining about the oil and gas which has and is still damaging the fisheries. The problem has been discussed at several commercial fishermen's meetings, and has been called to the attention of the government agencies dealing with fish management.



A Lake Michigan smelt fisherman, in his Johnson outboard-powered boat.

Devises Automatic Fish Scaler

Karl Kanerva of Escanaba, Mich. has invented an automatic fish scaler which takes scales off 50 or more perch in 15 minutes—a job that would take two hours by hand.

Kanerva's invention is a piece of metal punched full of nail holes. With the rough outside, it revolves at high speed when attached to his electric drill. A plastic shield keeps odd fish bits from flying into the operator's face.

Good Markets for Fresh-Water Fish

Early this month there was a good market for practically all Great Lakes fish. Lake trout, whitefish, yellow pike, buffalofish, bullheads and catfish were among the items in good demand by receivers.

More Lamprey-Scarred Fish Being Caught

The number of lamprey-scarred fish captured in Lake Superior feeder streams this year totaled 19,000, compared with 8,880 in 1955 and only 4,900 in 1954.

In a recent test netting, made near Marquette, Upper Michigan, with the aid of fishermen from Christian Brothers, only 12 lake trout were netted, 10 of them males. The males weighed from 5 to 9 lbs., instead of the 16 to 17 lbs. normally expected of Lake Superior's trout.

Before the lamprey began large scale attacks, a similar netting in the same spot would have yielded about 30 trout, half of them males.

Ohio Landings Show Increase

Landings of fishery products by Ohio fishermen operating in specific areas of Lake Erie during September amounted to 2.5 million pounds. These landings were 1.0 million pounds more than were landed during the previous month and 1.6 million pounds above the September 1955 production.

Yellow perch led all other items in poundage landed, followed by blue pike and yellow pike.

Object to Low Prices for Fish

Continued low prices for fresh-water fish have provoked commercial producers in the Lake Erie region. They point out that prices are slightly lower than ten years ago, and the price of living is continually climbing. This means the fisherman working on the deck of a vessel is taking home less pay, and his cost of living is rising.

Many captains are complaining that it is impossible to get experienced help. Workers in almost every other trade have enjoyed wage increases and fringe benefits, but not the fresh-water fishermen.



The 40' charter fishing boat "Margaret K. II", owned by Capt. Harold Meier of Manasquan, N. J., operates out of Brielle, N. J. in the Summer and from West Palm Beach, Fla., in the Winter. She is finished with International paint, and is powered with two 115 hp. Chrysler gasoline engines. Other equipment includes Exide batteries, 20 x 18 Columbian propellers, Pflueger hooks and Danforth anchor. Gulf H.D. lubricating oil is used.

Florida Conservation Director Proposes Minimum Net Mesh

Conservation Director Ernest Mitts has proposed a regulation designed to discourage the taking of small immature shrimp from the rich Tortugas beds off the Florida Keys.

Mitts proposed an experimental regulation to require shrimp vessels operating out of Dade, Monroe, Lee, Collier, Charlotte, Sarasota, Manatee, Pinellas and Hillsborough Counties to use nets with cod-ends having mesh measuring no less than 2 1/4 inches wet and stretched. The Conservation Director would be empowered to grant permits for smaller mesh if the shrimp vessel was not operating on the Tortugas beds.

The proposed regulation would become effective January 5, 1957, and remain in effect until adjournment of the 1957 Legislature. Mitts said this would give the Legislature an opportunity to review the question.

The proposed regulation also would require permits from the Conservation Director to land shrimp in the nine counties from which the Tortugas shrimpers operate. Mitts stated that since the Tortugas beds are outside Florida territorial waters, the State can't actually prevent the taking of the small shrimp. But he added the State can refuse to allow vessels to land with catches of the small shrimp.

The proposed regulation met both vigorous support and opposition from representatives of the shrimp industry. Sen. William R. Neblett of Key West endorsed the proposal, and said at least 85 percent of Monroe County shrimpers favored it.

Rep. Walter O. Sheppard of Lee County also endorsed the proposed regulation, saying it was favored by Lee County shrimpers. However, several shrimpers and canners from Collier County opposed the proposal. Robert Combs stated the regulation was not designed as a conservation measure, but was merely a marketing "gimmick".

To Explore for New Fishery Resources

A new firm, known as the Ichthyological Research & Development Corp., has been formed to cooperate with the University of Miami in studying the flora and fauna of the ocean for potential commercial and industrial use, and to explore the world's waters for new sources of supply. The firm will strive to locate fish populations and assess their abundance, availability, distribution and migration.

The new organization is headed by Gene W. Goble, with Dr. Luis Rivas, associate professor and curator of fishes in the University Zoology Department, as vice-president. The firm will operate out of Miami and direct most of its initial efforts to the Caribbean area.

Goble stated that the total value of U. S. businesses engaged in exploiting ocean resources is estimated at 6 billion dollars, but that those businesses do not even begin to tap the potential resources. Less than 1 percent of some 35,000 known species of fish now are being utilized as sources of food, oil, animal feed or fertilizer.

Texas Shrimp Catch for Year Shows Big Gain

Official reports for the last fiscal year show the landings of marine products at principal Texas ports again on the upswing, with a total of 136.6 million pounds, as compared with 116 million pounds for the previous year. This gain is due mostly to a 22 million-pound-increase in shrimp production.

The shrimp catch for this year was 79.1 million pounds, as compared with 57.1 million pounds during the preceding twelve months. Edible finfish production for this year was 3.8 million pounds, as compared with 2.3 million pounds last year. Menhaden landings were 53.3 million pounds, a decrease of four percent from the previous year. Oyster production reached 671,260 lbs. of meats for the last twelve months' period, a 108 percent increase over last year. Crab yields increased from 65,210 lbs. in 1954-55 to 248,970 lbs. in 1955-56.

New Trawler Delivered

The Producers Marine Service has just received the new 68-ft. trawler *Valley Moon* from the Brander Shipyards of Biloxi, Miss. A General Motors 6-110 Diesel is the primary source of power.

New Freezer Plant Completed in Mexico

Manuel Sanchez has announced that the Brownsville Shrimp Exchange has just completed its new production, deep-freeze and storage plant at Salina Cruz, Mexico. The freezer plant has a rated output of 15,000 lbs. per day. Freezer storage facilities are rated at 100,000 lbs. In addition to the new processing plant, the firm also has leased a local ice plant.

About ten trawlers owned by the company already have been dispatched to the new plant to start trawling operations. The recently-completed 74' refrigerated carrier boat *Four Brothers*, owned by the Texas Trawlers, Inc., a branch of the Brownsville Shrimp Exchange, has made its first round trip from Carmen, Mexico. Its cargo was 90,000 lbs. of frozen, processed shrimp for the Exchange. The vessel is powered by two General Motors 6-110 Diesel engines.

Award Contracts for Dredging

Contracts in excess of 2.5 million dollars have been awarded to dredging contractors by the Port Mansfield Improvement District. In connection with the improvements, nearly 4 million cubic yards of material will be moved for the canal through Padre Island into the Gulf, port improvements and shrimp basin.

The port will be of great value to the commercial fishing industry, since it is located about in the middle of the 125 miles of unimproved coastline, and will provide a passageway between the Intracoastal Canal and the Gulf of Mexico for fishing boats. Its value as a storm harbor for fishing boats during the hurricane season cannot be over-estimated.

November Fishery Receipts Decrease

Normal seasonal conditions combined with a number of other factors resulted in a marked decrease in land-

ings of marine products at Texas Gulf ports during November, as compared with those of the preceding month.

Total landings of shrimp reported from principal ports were 4,055,000 lbs., heads off, compared with 6,170,000 in October, the highest production of any month during the past year.

Scattered shrimp on the beds in the south Gulf and the latest Mexican flare-up, slowed activities in this area, as reflected by small volumes of brown shrimp coming into Brownsville, Port Isabel and Aransas Pass.

The failure of the bays to produce as expected was one of the big disappointments to shrimpers in the central and lower coast areas. In the Galveston Bay and Sabine areas on the north coast, landings of large white shrimp exceeded expectations.

The seasonal shifting of shrimping operations in November was another factor. Trawlers from Florida, Mississippi and Louisiana generally are fishing in the west Gulf during early Fall, but later move east, where bays have just opened.

Edible finfish production for November was average, with 298,300 lbs. reported by commercial fishermen. Red drum were plentiful, as were speckled sea trout and croakers. Red snapper production from banks in the Gulf off Port Aransas and Port Isabel was above average. Black drum runs were good in inland waters on the middle and south coast. Production exceeded demand.

Commercial oyster production was well under way on the upper coast early this month. Few, if any, of the oyster processing plants were expected to open on the middle and lower coast, due to scarcity of oysters, high labor costs and heavy expense for maintenance of a State-approved plant for shucking, processing and handling.

Prices on approved oysters have been good, with supply limited and demand heavy. Ungraded shucked oysters are selling at \$1.00 a pint retail.

Brazosport Is Major Shrimping Center

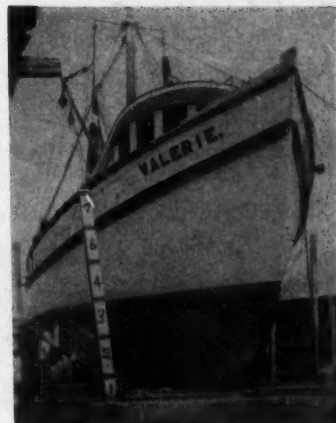
The fishing center of Brazosport produces enough shrimp annually to supply one shrimp cocktail for every person in America. During a recent period of 26 days, 6 shrimp buyers reported production of 1,416,350 lbs.

The average price paid by buyers is from 50 to 60 cents per pound. That makes the shrimp business amount to some \$750,000 a month.



Mrs. Jim McMurray, wife of captain-owner Jim McMurray, aboard their shrimper "Gen. Clark" of Freeport, Texas. The vessel's "eye" was painted by Mrs. McMurray, a commercial artist, and is fashioned after decorations on the Portuguese fishing smacks.

The 53' shrimp trawler "Valerie" hauled out at Low's Marine Ways, St. Petersburg, Fla. She is owned by Capt. Gideon B. Daniels, and has 110 hp. General Motors Diesel with 38 x 36 Columbian propeller. Columbian rope and Ederer seines are used.



Adding proceeds from a half dozen or more kinds of fish caught in the Gulf and brought into Brazos Harbor, and money expended in waterfront services, repairs and equipment, it can be seen that Brazosport's waterfront is the center of big business.

More than 100 boats work in and out of this port, not including private fishing parties that visit the several snapper banks.

New Surrrette Battery Warehouse at Houston

Surrrette Storage Battery Co., Inc. has announced the opening of a new warehouse at 3803 Winshester St., Houston, Texas, to be operated by Haskell Lilly, formerly with the Silverloy Battery Co. This warehouse will serve the Texas area.

Urges Firmer State Dept. Policy with Mexico

"A firmer State Department policy rather than more patrol boats is needed to settle the shrimping controversy between Mexico and the United States." This was the opinion expressed by Virginia Congressman Vaughn Gary upon his return from an inspection tour of the 1500-mile Gulf of Mexico area where the U. S. shrimping fleet is operating. In fact, it was during Congressman Gary's November trip aboard the Coast Guard cutter *Sebago* that the Mexican gunboat G-28 fired on the Texas shrimper *Pescador*, wounding her 42-year old skipper, Tom Wilson of Brownsville.

Capt. Wilson's statement that the gunboat gave no warning before opening fire on the *Pescador*, which is owned by John Santos Carinhas of Brownsville, was in agreement with one issued by Capt. Floyd Stevens of the *Valley Rio*, whose boat also was a target for the G-28's rifles during the same day. Capt. Wilson was taken to a Tampico, Mexico, hospital following the shooting, and later was flown to Brownsville, where hospital attendants said he had received a bullet wound in the back.

Georgia Crab Catch Shows Gain

Total landings of fish and shellfish during September amounted to 2.3 million pounds, with shrimp and blue crabs making up 98 percent of the catch. There was a significant increase in crab catches, with many fishermen continuing to fish for crabs in sheltered waters during periods of strong winds.

The daily shrimp catch per boat varied considerably. During the first week trawlers caught from 100 to 250 lbs. per day in the coastal waters of Georgia. Two periods of inclement weather limited fishing operations. For a few days following the bad weather daily catches per boat varied from 400 to 700 lbs.

Most of the finfish landed in Georgia during September was caught incidental to shrimping operations. Poor catches of fresh-water catfish in the central part of the State discouraged extensive fishing for this variety.

California Crabbers Are Making Good Catches

The California crab season opened November 15, with good catches during the first week. But fishermen were disappointed at the price—12 cents a pound, compared to 16 cents a pound last year.

A spokesman for the Crab Boat Owners Assoc. said the trouble was too much frozen crab coming in from the outside. Some dealers say they have more crab than they need.

A number of boats from Moss Landing went out when the season opened. Capt. Art Erwin of the *Edith M.* and Capt. Jack Norman of the *L. C. F.* are using crab pots for their catches. Capt. Bill Tomlinson and his son Bill, Jr. on the *White Angel* are using nets.

The California State marine biologists report initial results on a crab tagging program. Most of those recovered during the past several seasons have moved only a few miles from the point of release. But there have been a few restless ones. One traveled 28 miles and another 35.

Few Boats Still Albacore Fishing

Only a few boats continued to search for albacore last month, but some fish were being taken from the Farallone Islands south to Pt. Arguello. Large schools of tuna were found just south of San Diego in November and December last year. Fishermen were watching for a reappearance of the fish there this year, but only scattered numbers were found.

Capt. Jim Young of the *Cavalier* and Capt. Dave Coe of the *Julia* came into Moss Landing last month for fuel and supplies. Both boats had approximately 14 tons of tuna aboard which they planned to sell in San Pedro for \$325 a ton.

Capt. Mike Schroeder of the *Mandy* and Capt. Kenny Anderson of the *Western Skies*, with about 6 tons apiece, unloaded their catches in Moss Landing. One after another the boats are tying up for the season, which over-all was considered satisfactory for a majority of the fleet.

Clam Shortage Predicted

While there are still sufficient clams being taken for food and recreation purposes in the Pismo beach area, biologists of the California Fish & Game Dept. have been unable to explain why no successful spawning has taken

place for the last nine years. Even if a spawning does occur this season, biologists report there will be a shortage soon, as it takes five or more years for the clam to reach maturity.

Whether it is coincidence or not, 1946 was the last good clam spawning period and it was also the year the sardines left Monterey Bay. Both sardines and clams lay spawn which floats on top of the water and hatches, rather than being laid in the sand.

It is reported by Hopkins Marine Station in Monterey that waters of the Bay have warmed up 2 degrees in the last ten years. This may possibly be an explanation of the failure of clam and sardine spawn to mature.

Pier to be Rebuilt

A \$366,500 contract for a timber wharf to replace the old wooden pier at Fishermen's Slip in San Pedro was awarded last month. The contract calls for replacement of about 1000 feet of wooden wharfing now in poor condition. Previously, 600 ft. of the wharf had been rebuilt. About 100 purse seiners normally use the slip for tying up.

Hearing on Tuna Prices Postponed

The Federal Trade Commission on November 8 cancelled a hearing scheduled in Long Beach, on charges that the Southern California tuna industry had conspired to fix tuna prices and halt foreign competition.

The Commission reported that it had called off the hearings because only a few of the more than 20 firms and dozens of individuals named in the complaint had answered. The hearing was to be rescheduled this month or next, giving those who have not answered more time to make formal replies.

Taking Plankton Samples in Sardine Research

With the commencement of sardine fishing off California in October, Pacific coast biologists of the Fish and Wildlife Service began a special study with the sardine fleet to obtain plankton samples and temperature observations in the areas scouted and fished by the fleet. This work was to be continued through November and December.

The object is to determine to what extent and in what way daily movements of sardines are related to distribution and density of planktonic organisms and temperature distribution. Sardines feed almost exclusively on certain of the small drifting plankton organisms.

By accompanying a large fishing fleet, the research vessel *Black Douglas* is assured of locating, within a few hours, any large concentration of sardines that may be present in the region. One ship alone could not hope to match the scouting capacity of the 90 to 100 commercial vessels. Furthermore, the scouting activities of the fleet often define areas in which sardines are not present, as well as areas in which they are present, during any one night.

Plankton is gathered with a Hardy Plankton Recorder, a device which collects plankton continuously while the ship is under way and makes possible estimates of the kind and amount of plankton at any point on the course. Although this instrument has been used on both sides of the Atlantic and in the mid-Pacific to collect plankton over long distances, this is the first attempt to use it on a relatively small scale.

Hold Hearings on Union Representation

Two hearings were held last month in Los Angeles on whether or not to hold a new representation election among fishing boat crews operating out of San Pedro. Purpose of the election would be to determine whether the International Longshoremen's and Warehousemen's Union or the AFL-CIO Seine and Line Fishermen's Union should be sole bargaining agent for all crew members in the fleet.

At present the Seine and Line Fishermen's Union holds contracts with men on 73 boats and the ILWU with men on 35 boats.



The "Glacier", miniature duplicate of a Northern troller, recently was sold for deep-sea diving work out of Santa Barbara, Calif. She formerly was owned by Ralph Haskin, and her new owner is Don Dicey. The vessel is equipped with Chrysler Crown engine, Kaar radio and Wood Freeman automatic pilot.

Sardine Landings Drop Slightly

San Pedro sardine fishermen ended the second fishing period on November 17 with a total catch slightly behind the 1955 pace, despite several more days of active fishing. For the entire season so far local purse seiners have landed 21,625 tons of sardines. In 1955 on the same date a total of 23,840 tons of sardines had been landed.

Local fishermen did well in the first "dark of the moon", bringing in 16,350 tons, but the second "dark" produced only slightly over 5,000 tons.

New Chrysler Dealer Appointed

John Pope Marine Services, 216 E. Anaheim St., Wilmington, Calif., has been appointed Chrysler marine engine dealer for the County of Los Angeles, with the exception of the city of Santa Monica. John C. Pope and David L. Sirota are co-partners of the firm.

Oregon Meeting Urges Curbing "Sports-Commercial" Angling

Resolutions designed to curb the take of ocean run salmon by so-called "sports-commercial" anglers in Oregon were adopted by the first Oregon Salmon Congress in Coos Bay on November 25.

The conference, sponsored by the Coos Bay Area Isaac Walton League, was attended by 74 representatives of both commercial and sport fishing interests, hitting primarily at the sport-commercial fisherman who, under Oregon angling laws, buys both a sport license and commercial license and fishes for unlimited catches at the river mouths where commercial vessels are unable to operate.

The dual licensing has been under fire the past several months from many fishing organizations, which claim it not only violates the spirit of sport fishing laws, but also permits unfair competition for the true commercial fisherman. Sport-commercials, fishing with bait from small boats, have no difficulty exceeding the two per day limit for sport licenses, and sell their catches to pay vacation expenses.

Hoping to discourage the dual licensing, the Congress recommended that the license fee for commercial boats be raised to \$25 from the present \$15, and a \$25 fee be levied for each operator or handler, compared to the present \$7.50. The Congress did not recommend an increase in the \$4.25 sport angling license.

Another recommendation of the Congress was that triangular or radial areas extending seaward from the river mouth be closed to commercial fishing on all Oregon streams except the Columbia River. Such closed areas, reaching two or three miles from the river mouth, are now in effect at Coos and Winchester Bays, and were designed to restrict the use of commercial licenses by the small boat fishermen.

Other recommendations of the Congress were:

Increase the commercial poundage fee from three-fourths to one cent per pound, and improve methods of collection.

Require commercial boats to show permanent identification markings.

Require commercial boats to by-pass sportfishing areas.

Mert Folts, Eugene, was elected president of the Congress, and Tom McAllister, Portland, was elected secretary.

Fish Commission Personnel Changes

Several personnel changes in the biological research program of the Fish Commission of Oregon were announced last month. M. C. James, State Fisheries Director, said the changes were necessitated by departure of key biologists during the past six months.

Lowell D. Marriage, formerly in charge of shellfish in-



A white Dungeness crab (foreground) which recently was brought into the Shellfish Laboratory of the Oregon Fish Commission at Newport, and a normal reddish-purple crab.

vestigations, is now water resources analyst for the Commission. Sigurd J. Westrheim will move to Clackamas to head the Columbia River investigations staff. Ted R. Merrell left the Commission last month to work for the Fish & Wildlife Service in Alaska. Ed K. Holmberg, albino specialist, will move from Astoria to replace Merrell as leader of Corps of Engineers projects.

Alfred R. Morgan will head the otter trawl research, and Raymond A. Willis of Bay City will be stationed at Coos Bay as head of coastal salmon research. Jack M. Van Hynning has been designated administrative head of the Fish Commission research laboratory at Astoria.

Discuss Offshore Salmon Fisheries

Offshore salmon fisheries management was discussed at two public meetings held last month in Seattle and Astoria by the Pacific Marine Fisheries Commission. Primary attention was given to discussion of the troll salmon fishery, but the Columbia River fall Chinook salmon run, and the newly-developed offshore gill net fishery, also were covered at the meetings.

White Crab Caught

A white Dungeness crab, the second one seen in some eight years, has been brought into the shellfish laboratory of the Oregon Fish Commission. The crab appears normal in every respect except for its lack of coloration. It is alive and being kept in the aquarium at the laboratory.

Biologists hope to find out if the abnormality carries over in the new shell after the crab molts. Crabs must shed their shell periodically in order to grow. Molting usually occurs in larger crabs during the Fall months in Oregon waters.

The entirely white, male crab was brought to the shellfish laboratory by commercial fisherman George Zinserling from Nehalem Bay.

New Marine Fisheries Research Coordinator

Charles K. Phenicie of Helena, Mont., has been named as research coordinator for the Pacific Marine Fisheries Commission, succeeding M. C. James, who resigned the position in August to become Oregon State Fisheries Director.

Phenicie currently is chief fisheries management biologist for the Montana Dept. of Fish & Game, and prior to that was employed by the Washington Dept. of Fisheries in otter trawl and herring investigations.



The 71' fishing vessel "Marian", which was built in 1908. She is owned by George R. Williams of Bellingham, Wash., and is skippered by his brother, Frank Williams. Her engine is a 200 hp. Atlas.

Washington Shrimp Beds To Be Exploited

It appears that research by the Fish & Wildlife Service vessel *John N. Cobb* is paying off in the field of developing the shrimp industry in Washington waters. The Cobb discovered large shrimp beds along the Grays Harbor area, causing Ed Kaakinen, Westport cannery owner, to experiment with shrimp fishing and canning. He imported machinery from New Orleans, and already has processed a 4000-pound catch of shrimp. Big problem to further development is the lack of boats properly equipped, but a shrimp trawler is expected to arrive from the Gulf of Mexico in the near future to show ship owners how to rig their outfits for shrimp trawling.

On a previous cruise of the Cobb to the west coast of Prince of Wales Island, Alaska, several species of commercially desirable bottom fish were caught, but stormy weather seriously curtailed exploratory fishing activities throughout the entire period of the survey.

The best area of fishing was off Iphigenia Bay, where rockfish, black rockfish, Pacific ocean perch, and red rockfish were caught in good quantities. The dragging bottom was exceptionally good in this area.

Rules on Offshore Salmon Netting

Washington State Attorney General Don Eastvold, in an opinion requested by Gov. Arthur Langlie, has said that the State can legally stop its citizens from fishing for salmon outside the 3-mile limit, only if a similar restriction is enforced by Oregon and California. The three States have a joint compact which provides that no rule or regulation on offshore fishing shall be issued or approved except by all three States.

Fraser River Fishways Started

The International Pacific Salmon Fisheries Commission has started construction of fishways on the Fraser River near Yale, where obstructions to salmon runs were found in early 1955. Two structures are planned, with the cost being shared equally by the Governments of Canada and the U. S. The early Stuart sockeye run is a valuable segment of the sockeye fishery. If the obstruction had not been located and the fishways built, an estimated loss of \$2,500,000 to the fishing industry would have occurred.

Oyster Operators File Damage Suits

Eight oyster bed operators have filed damage suits totaling \$841,500 against Rayonier, Inc., pulp mill at

Shelton. Seven of the suits charge that oyster production and beds were severely damaged, while the eighth says that the grounds haven't produced anything since being damaged by the waste liquor from the mill.

The suits charge that the pulp mill allowed waste liquid and solids to escape into Oakland Bay and Hammersley Inlet, thus causing damage to the beds and making them unproductive.

Resigns as Head of Gillnetters Group

Joe Burrows, president of the Puget Sound Gillnetters Assoc. for several years, has resigned his post effective immediately.

Puget Sound Closed During November

Because of the extremely light chum salmon runs, all commercial salmon fishing on Puget Sound was closed during the month of November. On November 2, the catch was 67,000 fish, the lowest take on record, and it was considered necessary that full escapement of the remaining 50 to 60 percent of the run be accomplished.

Fraser River Sockeye Run Declines

The 1956 run of Fraser River sockeye, including the commercial and Indian catch as well as the escapement, declined 14 percent relative to the brood year 1952. Last year the run declined 17 percent relative to the brood year 1951.

In spite of the decline in the total run, special consideration was given to obtaining adequate escapement, with the result that the total escapement actually increased slightly over that recorded in the brood year. The escapement of 888,000 sockeye was 32.2 percent of the total run.

The escapement of many races showed substantial declines in productivity, but in most cases the decline can be attributed to the gradual formation of dominant year classes on other cycle years.

The Chilko River, Gates Creek and Silver Creek runs were the only dominant year classes expected, and in each case the production and escapement was satisfactory, although below the maximum expected.

In the lower river area, the escapement to Cultus Lake appeared satisfactory. The run to Weaver Creek was seriously affected by drought conditions in the brood year, and a substantial drop in population size was expected on the basis of the fry emergence count in the Spring of 1953.

The 1956 Fraser River run approached very closely the minimum expected, but was well below the maximum potential. The actual catch was 1,802,000 for both countries, and was within 12,000 fish of being equally divided between the fishermen of Canada and the United States.

Seattle Otter Trawl Catch Shows Gain

There were 51 otter trawl trips landed at Seattle in November, and 1,710,400 lbs. of fish were unloaded. This was nearly a million lbs. more than in November of last year, and 67,000 lbs. higher than the landings in October, 1956.

The top variety was Pacific Ocean perch, with 346,700 lbs., or nearly 250,000 lbs. more than in November, 1955. True cod was a close runner-up, landings of this species having totaled 343,600 lbs. this November, showing a gain of more than 200,000 lbs. over the same month of last year.

Westphal Heads Bludworth's Seattle Office

Bludworth Marine, manufacturers and distributors of precision electronic equipment for navigation and underwater survey, has announced that Ralph Westphal is now in charge of the company's Seattle office, replacing Milton Crane, who resigned to engage in another line of activity. Mr. Westphal, a Seattle resident who has been in training with Bludworth Marine in New York for the past year, possesses an F.C.C. radio telephone license with radar endorsement.

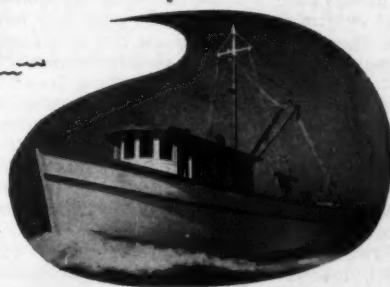
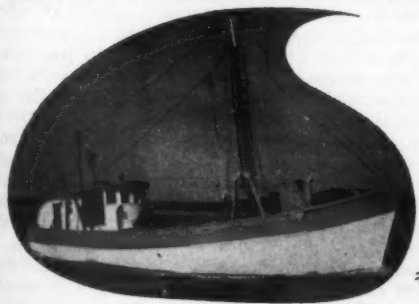


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and may we stride forward to our
goal of "Peace on earth — good
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The 59' long-liner "Lenarfish", owned by Leonard Brothers, Division of National Sea Products, Ltd., North Sydney, Nova Scotia, shown rigged for swordfishing. Her power is a 275 hp., Model NHMS-600 Cummins Diesel, which swings 38 x 30 three-blade wheel through 3:1 Twin Disc gear. The vessel is completely controlled from the mast during the hunt for swordfish, through an auxiliary steering and engine throttle arrangement.

Accurate Compass Operation

(Continued from page 13)

ed in its vicinity. For example, if the compass were to be placed near a worm steering mechanism that utilized steel shafting, which usually possesses powerful magnetism, the compass would be rendered unsteady and extremely sluggish, if not totally inoperative. This condition also can exist if the shifting lever is composed of steel rods and is mounted in close proximity.

Therefore, if within four feet of the compass, any non-stationary metallic parts, including shafting or the steering wheel, should be of a non-ferrous metal, such as brass. The shafting and steering wheel, incidentally, are the most common sources of trouble which confront the compass adjuster on fishing trawlers.

However, there is a multitude of other equipment which interferes, in some cases, by causing large and variable deviations. Almost any electrically-operated equipment drawing more than five amperes should be kept two to three feet away from the compass; for example, large sounding machines, radiotelephones, radar, electric windshield wipers, fans, and other appliances with small fractional horsepower motors. Larger horsepower electric motors, solenoids, DC voltmeters, radio speakers and some makes of gasoline vapor detectors, should, if possible, be kept better than three feet from the center of the compass.

However, the fact that this equipment is mounted at theoretically safe distances from the compass does not mean that the compass will be entirely without deviation. It does assure that, once the compass is adjusted, any remaining deviation will be small, and will not vary according to what equipment is operating.

Large masses of stationary iron present little difficulty to the compass adjuster. Steel booms, however, can cause trouble, as occurred recently in the case of a New England fishing trawler. The captain said that the compass was "of the finest kind" in the Summer, but was unsatisfactory in the Winter. This, it was found, was caused by the fact that the compass was adjusted in the Summer,

when the boom was topped up. However, when the boom was lowered in the Wintertime, in order to keep the riding sail set and swing the deck loops, the end of the boom was brought within three feet of the compass.

In this case, the compass was adjusted again, with the boom mounted in the position in which it usually would be used. This precaution would apply also to ventilator cowls just astride the pilothouse and to gallows frames at the sides of the pilothouse. The deviation resulting from such units is of a variable nature, due to the fact that its cause is movable, and it is called "transient magnetism".

Observation of the following rule of thumb will prevent difficulties with transient magnetism: construct an imaginary sphere with a radius of three feet about the compass, and see that the volume within contains no movable iron or steel controls or any electrical apparatus consuming large amperages. Taking this precaution will allow a satisfactory adjustment to be made.

How to Adjust Compass for Small Deviations

Having given the compass a healthy environment by proper location of the instrument itself and the equipment around it, the next step is to ascertain the deviation. Running a known course and taking the difference between the compass and magnetic headings will render the deviation for that particular magnetic course. Reasonably accurate deviations can be determined if courses are run at slack tide on a calm sea.

There is a method an amateur can use to adjust his compass that does not require any instruments or bearings on shore objects. Procure a pair of 4" or 5" bar magnets from a marine hardware store. Having assured yourself that the compass is free from disturbance due to "transient magnetism", and is properly lined up, depart from a buoy on a cardinal heading by the compass.

For instance, depart from a position close to the buoy on a North (360°) course by the compass. Hold this course steady for a half mile or more, then turn about smartly, re-entering the boat's wake, and head directly back for the buoy. If there is no deviation the compass will read South (180°) during the return run. However, were it to read 160°, half the difference between 180° and 160°, or 10°, would be the deviation. This would amount to 10°E deviation on North, and 10°W on South.

To correct for this deviation, you would place one of the magnets in an athwartships position, ahead or abaft the compass so that a line running fore and aft and passing through the center of the compass would pass over the center of the magnet. Slide this magnet fore or aft until the compass reads 170°, then secure it. Half the observed error now has been removed.

As a check, you should steam North by compass from the buoy once more, turn about, re-enter the wake, and return to the buoy. If the magnet was carefully placed the compass should read South (180°) while returning, and all the deviation will have been removed for North or South courses.

Error is determined and corrections made for East and West courses in the same manner, by departing from the buoy, running a half mile or more on a course of East or West, and returning to the buoy. Again half the difference between the theoretical course and the observed return course is the deviation.

The second magnet, which will be used to correct this deviation, should be mounted on either side of the compass in a fore and aft direction, so that a line passing through the center of the compass in an athwartships direction will cut the magnet in half. This magnet, like the first one, should be moved toward or away from the compass until the deviation is removed. Here again, this is accomplished when the compass is made to indicate a heading which is halfway between the one originally observed on returning to the buoy and the East or West cardinal heading.

This method of running reciprocals is fairly accurate for removing the deviation on the cardinal headings, provided it is carefully done. However, steel vessels or those with iron fixtures near the compass, such as a winch

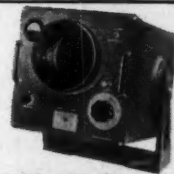
Superior

MARINE ELECTRONIC EQUIPMENT



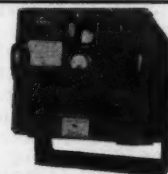
EDO FISHSCOPE

Most advanced fish finding device on the market, available in three versions for deep and shallow fishing. Spots fish on CRT at depths to 400 fathoms, then magnifies any 10-fathom sector 20 to 40 times for clearer view. Compact design, single transducer.



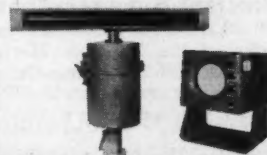
EDO LORAN

Compact, direct-reading aid to long-range navigation. No special training required to operate. Fix obtained from single, 28-tube unit in matter of seconds, regardless of weather or sea conditions. Absolutely accurate though relatively low in cost.



EDO RADAR

For long and short-range navigation in any weather. CRT display gives clear picture on 1, 2, 5, 10 and 20-mile range. Patented slotted waveguide antenna, mounted on transmitter, assures superior definition. Ideal where space and generator capacity are limited.



EDO CORPORATION

College Point, L.I., N. Y. SINCE 1925

mounted ahead or astern of the pilothouse, might produce quadrantal or constant deviations, which the above method would neither detect nor adjust. Therefore, you should not attempt to adjust your own compass if the deviations are very large or if the compass is mounted in an unhealthy environment.

Frequency of Adjustment

As to the frequency of adjustment, on a wooden vessel it is best to have the compass checked by a qualified adjuster at least once every two years. If the deviations were large after a previous adjustment, it should be adjusted yearly. The compass on a steel vessel will require adjusting twice a year or more. After any large amount of maintenance work is undertaken or electric welding done, the compass should be checked and readjusted, if necessary. In the latter case, if the electrical cables are twisted about each other similarly to the strands of a hawser and the ground terminal is clamped as close as possible to the spot to be welded, the magnetic field normally set up by this operation will be very much reduced.

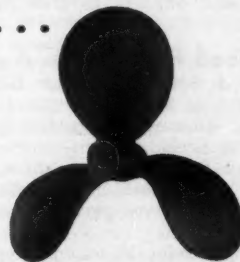
Mississippi Landings Show Increase

Landings of fishery products at Mississippi ports during August amounted to 30.3 million pounds, which represents a 30 percent increase compared with the 23.3 million pounds landed during the same month last year.

This increase was due primarily to a gain in the production of menhaden. Landings of all items might have been greater had not inclement weather hampered fishing operations.

Shrimp showed a seasonal decline, although landings during August were somewhat higher than reported for the same month one year ago.

EXPERT RECONDITIONING ON PROPELLERS OF ALL SIZES . . .



PRECISION EQUIPMENT and expert workmen insure an accurate repair job. We guarantee our work. Estimates gladly furnished. Send your damaged propeller to us for free inspection and report.

HYDE WINDLASS COMPANY
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HYDE PROPELLERS

EQUIPMENT and SUPPLY NEWS

Lavoie Alert System for Use with Radar

An automatic alert system which is designed to prevent costly collisions at sea, has been developed for use with radar by Lavoie Laboratories, Morganville, N. J. The new device, smaller in size than the conventional table radio, will fit all existing radar systems and can be adjusted to give warning of impending danger at any range covered by the radar. It is designed to eliminate the possibility of human error in scanning a radar screen, and will give either visual or audible alarm, or both, as a target hits the radar range.

The Lavoie alert system will work on any section of the range from zero to the maximum range of the radar equipment. As the radar scans the area, any targets appearing in the "alert" area will feed information to the "alert system". The warning could be issued either in an audible tone or beep, which grows more constant as the threat gets closer, or it could be through a constant flashing of a red bulb. The audible system could be hooked into a ship's loud-speaker system.

Universal Buys Nordberg Gas Engine Div.

The Universal Motor Co. of Oshkosh, Wisconsin, has purchased the Gasoline Marine Engine Division of the Nordberg Manufacturing Co. of Milwaukee. Universal's plans call for continuing the "Nordberg" line as a separate division. These engines in the future will be manufactured in Oshkosh.

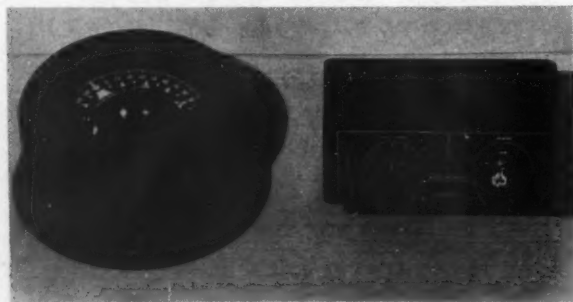
Norman Wuotila, the Nordberg service manager, is moving to Oshkosh to help carry on the operations of the new division for Universal, continuing Nordberg's former policies, dealer organization, and engine line, with the general cooperation of Clyde Smith of Universal. In addition, the following staff people also are moving to Oshkosh on a temporary basis for a period of three or four months to help establish the new division: H. E. Fellows, formerly manager of the division, and Harold Griswold, assistant manager.

Universal guarantees to continue to service all "Nordberg" gasoline marine engines out in the field, and within a matter of weeks, expects to give such service on a "same day" basis.

New Low-Priced Richardson Automatic Pilot

A. Richardson & Son of Warwick, Rhode Island, have announced their new Model M magnetic pilot for boats up to 55 ft. long. This new magnetically-controlled pilot operates on an entirely new method—it is electrically timed. The major feature of this silent helmsman is its one variable sea control, which immediately matches the pilot to any boat and gives precise rudder action in all sea conditions.

The Richardson Model M magnetic pilot is designed ruggedly enough to be adapted to commercial duty. It is only 7" square, and can be installed with any type of steering mechanism without major electrical or carpentry work.



New Model M Richardson automatic pilot for boats up to 55 ft. long.

Richmond Ring Acquires Shipmate Ranges

Richmond Ring Co., Souderton, Penna., recently purchased the entire Shipmate Range business, and has incorporated it in its other operations as a separate Shipmate Stove Division. Manufacturing and parts service will be carried on at Souderton, and the complete Shipmate line will continue to be made. The products include cast iron, steel and stainless steel galley ranges suitable for coal, oil and LP gas; as well as Shipmate hot water heating boilers for marine use.

Dunk to Manage Wall Rope's Pacific Sales

Leonard S. Dunk, Jr. has been appointed manager of Pacific Coast Sales for Wall Rope Works, Inc., manufacturers since 1830 of manila and sisal rope. Mr. Dunk will make his headquarters at the Company Office located at 25 Hawthorne St., San Francisco, Calif. He graduated from Rensselaer Polytechnic Institute in 1949, and received a Master of Business Administration degree from New York University in 1955. He was associated with Lever Bros. Co. in New York prior to joining Wall Rope Works, Inc. earlier this year.



Leonard S. Dunk, Jr.

Besides warehouse stocks located in San Francisco, Wall maintains rope stocks in Seattle, Portland, Los Angeles and San Diego. The firm manufactures Nylon and Dacron rope and twines, in addition to manila and sisal rope.

New Booklet on Caterpillar Diesels

"Caterpillar Marine Engines" is the name of a new 16-page booklet recently published by Caterpillar Tractor Co., Peoria, Illinois. The pamphlet explains the design features of Caterpillar Diesel engines that make them adaptable to a wide variety of marine applications.

The two-color booklet gives detailed coverage to such engine components as pistons, cylinder blocks, and crankshafts, explaining how each incorporates precise manufacturing methods to give longer life. The adjustment-free "Cat" fuel system also is detailed to show the fuel economy obtainable in Caterpillar Diesels.

A large cutaway picture of the Caterpillar marine gear is used to point up the features of this unit. Of special interest is the description of Caterpillar's exclusive trolling device, which allows adjustment of marine gear output from 0 to 7 hp. at 850 rpm.

Throughout the booklet are pictures of fishing boats, tugboats, and ocean-going vessels.

Hempstead, New Ritchie Compass Adjuster

E. S. Ritchie & Sons, Inc., Pembroke, Mass., have announced the appointment of Capt. Robert L. Hempstead of Wickford, R. I., as their authorized compass adjuster for Southern New England. He will service fishing vessels, work boats and pleasure craft in that area.

Capt. Hempstead served in the Merchant Marine during World War II and holds a certificate in compass adjusting through training with the Royal Technical Institute. He has been a professional adjuster since 1949, and was captain of a research vessel for the Woods Hole Oceanographic Institute.

Bludworth Handling Kelvin Hughes Radar

The new low-cost Marine Radar Type 14, recently introduced by the English firm of Kelvin Hughes, incorporates full high-power performance, high definition, low weight and small size. Bludworth Marine of 92 Gold St., New York City, are exclusive representatives for sales and service of Kelvin Hughes radar in the United States.

The scanner unit on the Kelvin Hughes radar features a unique slotted waveguide radiator, which eliminates the necessity for the conventional reflector, thereby reducing considerably wind resistance and weight, yet affording greatly improved electrical characteristics and eliminating sidelobe echoes. The compact transmitter unit uses magnetic techniques in the modulator, while retaining high power output.

The display unit, with readily-adjustable angle of view, is suitable for deckhead, bulkhead, or deck pedestal type of mounting. It incorporates a built-in viewing hood, around which are arranged simplified controls, each with an illuminated identification panel. Five range scales are provided: ½ to 3 miles (continuously adjustable), 6 miles, 12 miles, 24 miles and 48 miles.

To obtain optimum results under adverse conditions of rain or snow, a differentiating (F.T.C.) control, as well as a swept gain (S.T.C.) control, is provided. A variable range marker and calibration rings are available for range measurements.

The new type combined power unit and junction box for the Kelvin Hughes radar houses all power supplies other than the valve heater transformers, which are located in each individual unit. A completely new type motor generator eliminates the need for a conventional starter unit, the output being automatically voltage controlled by means of a magnetic regulator. Printed circuit techniques have been used extensively in the new radar, which can operate on 24 volts; 110 volts or 220 volts D.C., or on A.C.

Harbormaster Outboard Propulsion Units

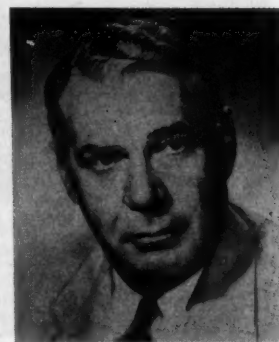
New Utility Series Harbormaster outboard propulsion and steering units, offering practically all the advantages of standard Harbormasters at considerably lower cost, have been announced by Murray & Tregurtha, Inc., 80 Hancock St., Quincy 71, Mass. Available in 40 hp. and 60 hp. gas or Diesel models, the new Utility Series Harbormasters provide the same heavy-duty performance and high thrust per horsepower as comparable standard models.

Harbormasters are complete marine power and steering units, which can be easily installed on new or existing craft, such as work boats. The Utility Models provide outboard-style maneuverability, with propeller-thrust steering from 30° port to 30° starboard. The outboard drive section elevates above the deckline for repairs and maintenance. Large diameter propellers provide good heavy-load characteristics. Shear pin protection is included.

Standard-Model Harbormasters from 40 to 400 hp. have been in commercial use since 1945.

New Sen-Dure Heat Exchanger Catalog

A new 1957 edition catalog on heat exchanger freshwater cooling systems for marine engines has been issued by Sen-Dure Products, Inc., Bay Shore, L. I., N. Y. A free copy is available on request.



J. J. Lapp, left, new Los Angeles representative for Chrysler, and M. J. Yost, new regional manager of the Los Angeles office.

Yost Heads Chrysler's Los Angeles Office

Two advancements in the West Coast regional office of Chrysler Marine and Industrial Engine Division of Chrysler Corp. have been announced. M. J. Yost has been named regional manager of the office, and J. J. Lapp has been selected as Los Angeles representative.

Prior to his transfer to Los Angeles, Mr. Yost served as sales representative for Chrysler with headquarters at Seattle, Wash., and before that was sales and service representative operating out of Detroit. He has been with Chrysler Corp. 29 years.

Mr. Lapp previously served as engineer and field service representative for Federal Motor Trucks.

Faster Delivery on Columbian Propellers

A new merchandising program designed to broaden the distribution of marine propellers and improve service to the ultimate consumer is being introduced by the Columbian Bronze Corp. of Freeport, N. Y., to its distributors and dealers. The purpose of the plan is to increase inventories of popular types of propellers at the distributor and dealer levels, so that faster delivery can be made to boat owners, thereby reducing layup time to a minimum.

The new program is called the "P.D.Q. Plan", which stands for Propellers Delivered Quick. The plan is based on the formation of distributor stock orders for one year's supply, and provides for deferred billing. The proposal contains a number of desirable features including a provision, said to be unique in the industry, relating to the return of unsold propellers.

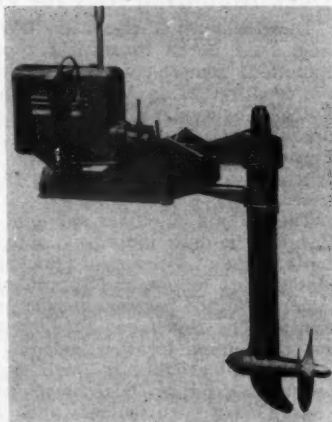
In another important organizational change, Columbian Bronze broadened its sales base in the Greater New York area by the appointment of the Durkee Company, Inc., as factory-warehouse distributor in this territory. Durkee, whose offices are located at 29 South St., New York, will warehouse a full inventory of Columbian products for sale to dealers in New York City, Long Island, Westchester; lower Connecticut and northern New Jersey. Appointment of the Durkee organization with its specialized facilities, is expected to greatly improve Columbian's service to its accounts because Durkee will have the stock and the manpower to meet immediately their needs.

New Detroit Diesel Regional Offices

The Detroit Diesel Engine Division of General Motors Corp. has expanded its administrative sales and service facilities by establishing regional operations in six key cities throughout the country. Headquarters for regional areas have been established recently in New York, Atlanta, Detroit, Chicago, Dallas and San Francisco.

In announcing the expansion program, Robert E. Hunter, general sales manager, said the new regions would expedite and provide additional assistance to distributors, dealers and boat builders in working out the power requirements of their customers. The effect of the move will be to speed up interpretation of users' needs, provide faster processing of orders and faster response to service needs.

Headed by a regional manager and staffed by sales,



New Utility Series Harbormaster outboard propulsion and steering unit.

PROTECTION UNLIMITED!

Plus comfort, warmth and wear!



Specify **TOWER** Neoprene Clothing

In the foulest weather, on hot days or cold, fishermen can be sure of complete protection if they're wearing famous TOWER Neoprene Suits and Sou'westers, or hooded shirts with roomy pants. These comfortable durable, extra-protective garments . . . made of strong, impregnated fabric coated inside and out with Neoprene Latex . . . are highly resistant to abrasions, acids, alkalis, salt water or any hazards that can threaten the important work of today's commercial fisherman.

For those who do not need the extra protective qualities of Neoprene, there is a complete line of "ARROW BRAND" rubber latex clothing.

Available at all leading dealers. San Francisco warehouse — 501 Folsom St.

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FISHERMEN WHO KNOW WILL TELL YOU DALE PLASTIC FLOATS ARE THE FINEST YOU CAN BUY



The Only Floats Unconditionally Guaranteed
Specifically Designed For Fishing Areas In Which
They Are To Be Used—Deep Or Shallow Water.
ALL GILL-NET SIZES FROM 1 1/8" x 5" to 5" x 9".

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"Finest Floats Afloat"

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sales engineering and service personnel, each office will provide a basis for coordinating the entire sales and service efforts in the region. Locations of the Detroit Diesel regional offices, and the managers of them, are as follows: New York, N. Y. (New York Region)—Coliseum Office Bldg., 10 Columbus Circle, L. A. Steele; Atlanta, Ga. (Atlanta Region)—619 Fulton National Bank Bldg., R. W. Phillips; Wayne, Mich. (Detroit Region)—36501 Van Born Road, J. C. Campbell; Oak Park, Ill. (Chicago Region)—Avenue State Bank Bldg., 112 N. Oak Park Ave., D. E. Schwendemann; Dallas, Texas (Southwestern Region)—1717 Adolphus Tower, Eric Sutton; San Francisco, Calif. (Western Region)—1426 Russ Building, R. L. Burpee.

J-W Sniffers Detect Gasoline Fumes

Johnson-Williams, Inc. of Palo Alto, Calif., who make J-W Sniffers, have manufactured marine and industrial gas detecting equipment for over 29 years.

Elements of the Sniffer Model MC-1 are the indicating meter, the control panel, and the combustible gas detecting element, which normally is installed low in the engine compartment. Its platinum wire filament is wrapped in a Monel metal screen for flashback protection.

Connected to the detecting element by a heavy duty, Neoprene-jacketed detector cable (15-ft. standard) are the control panel and the hermetically-sealed indicating meter, which shows at a glance the presence of gas fumes and their degree of explosiveness. These last two elements are usually positioned near the helm.

J-W Sniffers are made of corrosion-resistant materials throughout. An inter-lock arrangement keeps the engines from being started until the Sniffer is on.

An automatic warning light and buzzer alarm can be installed as an accessory to the Model MC-1. This is the Model MCA. Also available is the Model MC-2 that includes two detecting elements for separate checking of two compartments.

Deck Mounting Kits for Falcon Horns

Development of two new kits to adapt Falcon hand-held boat horns to several types of permanent deck-mounted, remote-controlled installations has been announced by Falcon Alarm Co., Inc., Summit, New Jersey. Falcon's new "A kit" consists of a chromium-plated deck mount through which the boat horn is connected to a Freon-charged power container, and an attractive pull-type control valve designed for through-the-dash installation.

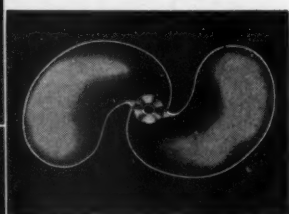
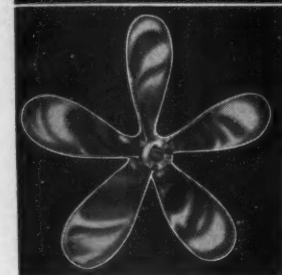
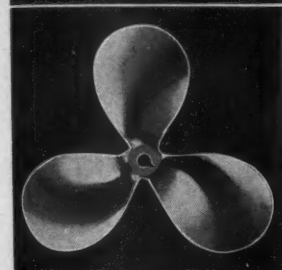
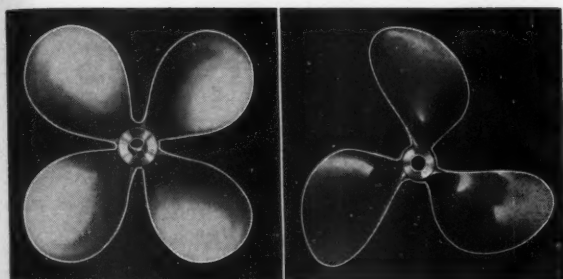
The "B kit" includes the pull-type valve control for through-the-dash mounting, supporting bracket for Falcon's throw-away cans of "Packaged Power", chromium-plated deck mount and supply of pliable copper tubing which links the permanent horn installation to the power source. The "Packaged Power" can be placed in almost any convenient location aboard.

Either kit can be used with any of five models of the penetrating Falcon boat horns, all of which meet U. S. Coast Guard requirements and "Rules of the Road" for both power and sail boats. Falcon's S-11 and F-22 horns can be heard up to a mile away over open water. Each disposable can of "Packaged Power" will generate more than 300 two-second signal or fog blasts. The larger BB-33, BB-44 and DT-55 Falcon horns can be heard up to two miles away, and will produce from 150 to 200 two-second blasts from each can of "Packaged Power".

McComb to Represent Flexible Steel

Jim McComb, who has been traveling California for the past few years, will cover this State for Flexible Steel Lacing Co., Chicago, Ill., manufacturers of Flexco and Alligator belt fasteners for joining conveyor and transmission belts, also Rema rubber repair materials for repairing conveyor belts.

McComb has had six years of engineering and sales experience in the machine tool field, including two years of sales and service work in California. He is a university graduate with a degree in engineering.



thru 60 inches

MADE IN A VERY WIDE RANGE
OF DESIGNS, DIAMETERS AND
PITCH TO PROVIDE THE MOST
EFFECTIVE PROPELLER FOR EACH
SPECIFIC COMBINATION OF ENGINE,

FEDERAL PROPELLERS

HULL AND LOAD. WE WILL BE
HAPPY TO RECOMMEND THE WHEEL
THAT IDEALLY MATCHES THE
REQUIREMENTS OF YOUR CRAFT.
Write for FREE ANALYSIS form. IT
HAS PAID BIG DIVIDENDS FOR
THOUSANDS OF OWNERS. Do it NOW!

FEDERAL PROPELLERS
GRAND RAPIDS 3, MICHIGAN

Curbing of Ocean Gill-Net Fishery

(Continued from page 12)

"The saving of fish by the closed season was tentatively estimated at 80,000, of which approximately 25,000 entered the Columbia River this Fall. Further benefit will accrue next year when the three-year-old fish that were protected this Spring will mature.

"The Fall run entering the Columbia River this year was considerably improved over the last few years and, most important, the escapements were greatly improved, and in some cases even doubled, over last year's.

"The decline and low level of the Columbia River Fall chinook run seems to be halted and the trend reversed. Unquestionably, the management of the troll fishery played a large part in this recovery.

"Since the full benefits of the regulation will not be felt until next year, it is recommended that the troll chinook season in Oregon and Washington open April 15 again next year."

Study Migrations of Dover Sole

Sigurd J. Westheim, aquatic biologist with the Oregon Fish Commission, discussed the migratory habits of Dover sole. He declared: "The migratory habits of deep-water Dover sole only recently have attained importance in the Oregon trawl fishery. In March of 1954, a concentration of Dover sole was discovered off Willapa Deep. Large catches were made from this area during March and April before the fish disappeared. In October the fish returned to the area, and the fishery resumed throughout the Winter and following Spring.

"Prior to this time, the Dover sole fishery off Oregon and Washington was confined to the inshore waters, less than 90 fathoms deep, where these fish congregated during the Summer months. With the arrival of the Autumn storms, the Dover sole would disappear until the following April or May.

"Since the inshore fishery for Dover sole had been poor since 1952, there was considerable controversy in the industry regarding this Winter deep-water fishery. The opponents of this fishery claimed that the Dover sole were the same fish caught by the fishermen inshore during the Summer months, and furthermore were being harvested during the spawning season.

"Those in favor of the Winter fishery countered that the deep-water Dover sole might well be permanent residents in the deeper waters, and, as such, should be harvested whenever available.

"In order to shed some light on this problem, we tagged 2406 of these Dover sole in the Willapa Deep during April, 1955, in order to determine where the fish moved after they left the Willapa Deep each May. To date, 31 tags have been recaptured from the Willapa Deep, and 43 have been recovered on the inshore banks, mostly in 50-60 fathoms. All of these were taken during the period May to November in 1955 and 1956."

Washington Trawl Landings Above Average

Trawl landings for the State of Washington during the current year will be approximately equal to the 1955 total, and well above the past ten-year average, according to Lee Alverson, marine biologist with the Washington State Department of Fisheries. He declared: "It is estimated that total State catches will exceed 41,000,000 pounds of food fish, compared to 39,530,000 last year.

"True cod, petrale sole and ling cod are down from the previous year. With the true cod and ling cod, the decrease in catch does not appear to be related to availability but to general market conditions and fisherman-indifference toward exploiting for these species during the period of low Summer prices.

"Decrease in petrale sole catches may be traced to the Winter closure imposed this past season and to reduced availability of the species. The increase in catches of ocean perch and black cod appear to be mostly related to changes in market conditions."

New Radiomarine Small Boat Radar

- Saves Money
- Saves Space
- Saves Power



Especially designed for vessels on which space and power are limited, Radiomarine's new CR-105-A Radar offers you the EXTRA features that give you MAXIMUM PERFORMANCE—MAXIMUM CONVENIENCE—MINIMUM MAINTENANCE. Only two basic units—indicator and antenna. Indicator is in deck mounted binnacle. . . . keeps picture tube high for best viewing . . . requires less than two square feet of deck space. Antenna is lightweight . . . only 105 pounds. Instant selection of 1-2-4-12-32 mile ranges helps you navigate through foul weather and traffic hazards to cut your trip-time, boost your profits. You'll read the clear, bright pictures on its 10-inch scope easier . . . service it quicker with the easy-access chassis. And here's another saving . . . the Radiomarine CR-105-A requires only 600 watts from ship's battery or other D.C. power supply. Find out more about the new Radiomarine CR-105-A . . . it can mean greater profits for you right now.



write for free information now!

RADIOMARINE SALES

RADIO CORPORATION of AMERICA

75 VARICK STREET, NEW YORK 13, N.Y.

BOAT CATCHES

For Month of November

Hailing fares. Figure after name indicates number of trips.

NEW BEDFORD (Mass.)

Adventurer (3)	55,000	Katie D. (3)	126,500
Anastasia E. (4)	51,200	Lynn (1)	7,500
Annie Louise (4)	44,600	Major J. Casey (3)	57,500
Annie M. Jackson (4)	62,500	Marie & Katherine (2)	38,800
Baracuda (2)	38,700	Mary E. D'Eon (3)	49,400
Barbara M. (1)	9,500	Mary Tapper (3)	75,000
Cap'n Bill II (2)	66,400	Midway (3)	117,800
Carl Henry (3)	54,800	Molly & Jane (2)	39,000
Charles E. Beckman (2)	16,500	Nautilus (1)	42,500
Christina J. (2)	48,500	Olive M. Williams (1)	17,400
Connie F. (2)	39,300	Pauline H. (3)	152,600
Dauntless (3)	52,700	Phyllis J. (4)	35,900
Driftwood (1)	2,100	Robert Ann (3)	40,000
Ebenezer (1)	2,500	Rosemarie V. (2)	43,500
Elva & Estelle (2)	30,500	R. W. Griffin, Jr. (2)	20,000
Eugene & Rose (4)	30,800	St. Ann (3)	56,100
Falcon (4)	65,200	Shannon (3)	34,500
Falcon (N. Y.) (1)	10,300	Sister Alice (1)	3,300
Gannet (3)	100,000	Solveig J. (2)	66,000
Gladys & Mary (3)	82,700	Stanley B. Butler (2)	100,000
Growler (4)	70,300	Sunbeam (2)	36,500
Harmony (2)	38,000	Susie O. Carver (2)	21,200
Hope II (2)	33,500	Theresa & Jean (2)	51,600
Invader (3)	91,500	Two Brothers (3)	41,800
Ivanhoe (4)	47,600	Venture I (3)	62,300
Jacintha (2)	67,500	Victor Johnson (3)	58,600
Julia Da Cruz (3)	54,500	Viking (2)	76,500
		Whaler (3)	78,800

Scallop Landings (Lbs.)

Adele K. (1)	8,500	Laura A. (1)	9,000
Aloha (2)	20,000	Lauren Fay (2)	22,000
Alpar (1)	6,500	Linda & Warren (2)	9,100
Amelia (2)	13,500	Linus S. Eldridge (2)	21,000
Babe Sears (1)	10,300	Louis A. Thebaud (2)	18,000
Baltic (2)	19,500	Lubenray (1)	8,500
B. & E. (2)	14,800	Malene & Marie (2)	16,100
B. Estelle Burke (2)	19,000	Maridor (1)	2,200
Bobby & Harvey (3)	15,100	Marmax (1)	6,000
Brant (2)	16,000	Mary Anne (2)	21,500
Bright Star (2)	22,000	Mary J. Hayes (2)	14,000
Capt. Bill (1)	3,000	Mary J. Landry (1)	4,000
Carol & Estelle (2)	20,700	Monte Carlo (1)	1,500
Catherine & Mary (3)	11,500	Moonlight (2)	12,700
Charles S. Ashley (2)	11,800	Nancy Jane (2)	19,500
Dartmouth (2)	16,000	Nellie Pet (2)	21,300
Debbie Jo-Ann (1)	8,500	New Bedford (2)	15,700
Dorothy & Mary (2)	10,000	Noreen (3)	23,600
Edgartown (2)	22,000	Pearl Harbor (2)	19,000
Eleanor & Elsie (2)	16,300	Pelican (2)	11,600
Elizabeth N. (2)	12,500	Porpoise (2)	18,500
Empress (1)	7,000	Rosalie F. (1)	2,000
Eugene H. (2)	12,800	Rush (2)	16,000
Eunice-Lilian (2)	15,000	Ruth Moses (2)	18,500
Fairhaven (2)	22,000	Sea Ranger (1)	10,500
Flamingo (2)	20,800	Sippican (2)	22,000
Fleetwing (2)	15,800	Smilyn (2)	21,000
Friendship (2)	6,000	Ursula M. Norton (2)	22,000
Janet & Jean (3)	7,000	Vivian Fay (2)	17,000
Jerry & Jimmy (2)	8,500	Wamsutta (2)	16,500
John G. Murley (1)	9,000	Whaling City (2)	13,500
Josephine & Mary (2)	14,000		
Kingfisher (2)	20,000		

STONINGTON (Conn.)

America (2)	1,600	Lt. Thos. Minor (10)	13,900
Averio (7)	6,900	Lisboa (2)	1,400
Bette Ann (12)	17,400	Little Chief (10)	13,600
Carol & Dennis (1)	2,400	Luann (1)	1,400
Carolyn & Gary (13)	25,800	Marise (9)	14,200
Connie M. (9)	14,300	Old Mystic (4)	13,200
Dolly & David (4)	1,000	Rita (1)	1,700
Fairweather (13)	43,000	Theresa (2)	2,100
Irene & Walter (14)	21,700	William B. (1)	600
Jane Dore (14)	19,900		

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"Miss Powerama" was built last year by Diesel Engine Sales, Inc., St. Augustine, Fla., and exhibited at the great Powerama Show at Chicago. On completion of this glamorous starring role, "Miss Powerama" was sold to the Camden Company of St. Mary's, Georgia, and is now a working shrimp trawler in the Gulf of Mexico.

Power from "Miss Powerama's" big GM Detroit Diesel's Series 110 marine engine is transmitted by a Tobin Bronze propeller shaft—3" x 26' 6". Diesel Engine Sales, which built the 67-foot trawler, has now built more than 560 shrimp trawlers of this type—practically all of them equipped with Tobin Bronze shafting.

The photo at the left was taken as "Miss Powerama" was arriving at Detroit on her way through the Great Lakes to Chicago.

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WOODS HOLE (Mass.)

Arnold (3)	26,400	Morning Star (4)	7,900
Bernice (3)	13,800	Natator (1)	2,100
Charles E. Beckman (1)	5,300	Papoose (3)	30,100
David & James (4)	8,900	Priscilla V. (2)	21,200
Driftwood (3)	11,400	Reliance (1)	1,300
Ebenezer (2)	3,100	Roann (2)	38,300
Gertrude D. (3)	43,400	R. W. Griffin, Jr. (1)	4,400
J. Henry Smith (2)	3,700	Southern Cross (2)	16,500
Kelbarsam (3)	20,900	Three Bells (2)	14,100
Lynn (1)	3,700	Viking (2)	3,800
Madeline (3)	20,400	Winifred M. (3)	22,300
Margie L. (1)	3,000		

Scallop Landings (Lbs.)

Alpar (1)	600	Mary J. Landry (1)	4,100
Camden (1)	9,800	Pearl Harbor (1)	1,800
Felicia (1)	3,200	Pelican (1)	600

PORTLAND (Me.)

Agnes & Elizabeth (2)	97,000	Ethelina (3)	177,000
Alice M. Doughty (1)	17,000	Gulf Stream (2)	273,000
Alice M. Doughty II (4)	80,500	Kennebec (1)	45,000
Andarte (1)	40,000	Medan (2)	530,000
Catherine B. (1)	5,000	St. George (2)	306,000
Cigar Joe (1)	1,500	Theresa R. (3)	244,000
Courier (1)	24,000	Vagabond (2)	117,000
Dorchester (1)	70,000	Vandal (4)	190,000
Dorothy & Ethel II (5)	159,000	Wawenock (2)	420,000
Elinor & Jean (1)	15,000	Winthrop (1)	180,000

ROCKLAND (Me.)

Araho (2)	234,000	Flo (3)	149,500
Calm (1)	225,000	John J. Nagle (1)	80,000
Crest (1)	130,000	Little Growler (2)	43,000
Drift (1)	230,000	Wave (1)	50,000
Elin B. (2)	41,000		

Scallop Landings (Lbs.)

Jeanne D'Arc (2)	9,200	Rhode Island (1)	8,000
Pocahontas (2)	19,000		

SEATTLE

Halibut Fleet Fishery

Dorothy II (1)	7,000	Gloria II (1)	18,500
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BOSTON (Mass.)

Acme (1)	5,900	Mary & Joan (2)	155,500
Agatha (3)	112,400	Mary Rose (3)	162,700
Agatha & Patricia (3)	100,300	M. C. Ballard (2)	133,300
Alphonso (1)	1,500	Michael G. (1)	6,400
Angie & Florence (4)	74,900	Michigan (2)	144,500
Arlington (2)	185,200	Mother Frances (2)	99,100
Atlantic (2)	134,700		
Baby Rose (2)	76,600	Nautilus (2)	81,000
Bay (3)	193,700	New Star (3)	187,000
Bonaventure (3)	135,700	Notre Dame (5)	133,500
Bonnie (2)	232,500		
Bonnie Billow (2)	187,300	Ocean Wave (2)	49,500
Bonnie Breaker (2)	133,400	Ohio (2)	101,200
Bonnie Breeze (2)	146,000	Olympia La Rosa (2)	82,300
Brighton (2)	182,700		
Buzz & Billy (3)	107,000	Pam Ann (3)	179,000
		Phantom (3)	300,300
Cambridge (2)	241,300	Pilgrim (3)	151,400
Caracara (2)	74,400	Plymouth (2)	123,800
Carmela Maria (6)	23,700	Puritan (3)	112,100
Catherine B. (2)	7,800		
Cigar Joe (2)	77,900	Racer (3)	307,700
Columbia (4)	188,300	Raymonde (3)	138,800
Comet (2)	82,300	Red Jacket (2)	207,500
		Reginia Maria (3)	105,500
Doris F. Amero (3)	83,000	Roma (2)	5,600
		Rosa B. (3)	206,300
Eagle (3)	136,600	Rosie (6)	49,000
Elizabeth B. (2)	95,700	Rush (1)	110,700
Flying Cloud (3)	368,500	St. Angelo (3)	116,300
Four (3)	192,800	St. Anna (1)	10,400
		St. Joseph (3)	56,700
Gaetano S. (1)	39,200	St. Marco (2)	76,400
Geraldine & Phyllis (2)	99,600	St. Peter (2)	28,100
		St. Peter III (2)	52,700
Hazel B. (4)	171,400	St. Rosalie (3)	83,700
Holy Family (3)	178,100	St. Victorin (2)	82,100
		Santa Maria (2)	55,000
Jane B. (2)	205,500	Santa Rita II (2)	20,600
J. B. Junior (2)	161,600	Savola (1)	7,600
Jennie & Lucia (3)	80,500	Star of the Sea (3)	94,400
Joseph & Lucia (1)	34,500	Sunlight (1)	43,200
Josephine F. (1)	5,100	Swallow (2)	121,400
Josephine P. II (3)	117,500		
		Texas (3)	230,200
Killarney (2)	43,000	Thomas D. (3)	83,800
		Thomas Whalen (3)	181,600
Lady of the Rosary (2)	42,300		
Leonard & Nancy (3)	81,500	Villanova (5)	114,100
Luckimee (1)	52,500		
Magellan (2)	52,300	Weymouth (3)	184,100
Manuel F. Roderick (2)	90,300	Wild Duck (3)	131,700
Mary & Jennie (1)	12,900	William J. O'Brien (3)	207,400
		Winchester (2)	120,200
		Wisconsin (3)	380,400

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American Eagle (8)	146,000	Maris Stella (2)	270,000
Anna Guarino (8)	34,000	Mary (7)	18,000
Ann & Marie (6)	8,000	Mary Ann (7)	136,500
Annie (4)	11,000	Mary Jane (1)	200,000
Anthony & Josephine (5)	99,000	Morning Star (9)	178,000
Baby Rose (1)	30,000	Mother Ann (1)	220,000
Cape Cod (13)	70,500	Nancy & Maria (6)	50,000
Carlansul (5)	17,500	Natale III (8)	183,500
Carlo & Vince (7)	121,000	Njorth (5)	19,500
Catherine B. (2)	38,000	No More (3)	1,500
Cigar Joe (1)	6,000	North Sea (1)	150,000
Curlew (2)	290,000	Ocean Clipper (7)	88,000
Dawn (6)	14,000	Ocean Life (1)	330,000
Dolphin (2)	125,000	Ocean Wave (1)	6,000
Eddie & Lulu M. (7)	11,500	Olympia (7)	184,500
Eleanor May (3)	2,500	Our Lady of Fatima (2)	350,000
Ellin B. (1)	12,000	Pioneer (5)	4,500
Emily H. Brown (1)	200,000	Priscilla (3)	3,000
Estrela (1)	240,000	Red Jacket (1)	157,000
Etta K. (5)	23,000	Rose & Lucy (6)	169,500
Eva II (4)	10,500	Rosemarie (5)	84,000
Evelyn C. Brown (2)	360,000	Rose Mary (3)	34,000
Falcon (13)	65,000	Rosie & Gracie (8)	193,500
Figueira Da Foz (1)	115,000	St. Anna Maria (7)	141,000
Florence & Lee (1)	185,000	St. Anthony (1)	130,000
Flow (1)	200,000	St. Cabrini (7)	117,000
Frances R. (6)	108,500	St. John (6)	13,000
Frankie & Jeanne (5)	6,500	St. Joseph (1)	23,000
Gaetano S. (2)	162,000	St. Mary (9)	154,500
Gertrude E. (3)	2,000	St. Nicholas (2)	375,000
Giacoma (9)	14,500	St. Peter (5)	48,500
Golden Eagle (1)	120,000	St. Peter III (1)	13,000
Helen B. (3)	31,000	St. Providence (7)	31,500
Holy Name (8)	154,000	St. Stephen (9)	45,900
Ida & Joseph (7)	157,500	St. Terese (7)	102,600
Immaculate Conception (9)	144,500	St. Victoria (2)	20,000
Irma Virginia (9)	17,500	Salvatore & Grace (8)	184,000
Jackson & Arthur (10)	42,000	Santa Lucia (9)	36,500
Joseph & Lucia (2)	251,000	Sebastiana C. (4)	109,000
Josie II (5)	10,000	Serafina II (9)	133,000
Judith Lee Rose (2)	445,000	Sunlight (2)	200,000
Kingfisher (2)	360,000	Theresa M. Boudreau (2)	410,000
Kurtia (4)	6,000	Tipsy Parson (8)	10,500
Lady of the Rosary (4)	82,500	Veronica N. (1)	35,000
Linda B. (8)	28,000	Victoria (6)	4,000
Little Flower (6)	148,500	Villanova (1)	200,000
Little Joe (6)	35,500	Vincie N. (5)	129,500
		Virginia Ann (7)	122,000
		White Owl (8)	16,000
		Wild Duck (1)	10,000

Scallop Landings (Lbs.)

Brother Joe (2)	9,000	Rita B. (2)	21,000
Cap'n Bill (1)	5,000	Stephen R. (2)	14,000
Michael F. Densmore (2)	15,000	Sylvester F. Whalen (1)	11,000

NEW YORK

Andrea G. (3)	96,100	Joseph S. Mattos (2)	82,500
Carol-Jack (2)	47,400	Lady of Good Voyage (3)	71,900
Clipper (3)	95,900	Star of the Sea (3)	95,800
Evelina M. Goulart (3)	104,000	Tina B. (2)	54,000
Golden Eagle (1)	48,000		

Scallop Landings (Lbs.)

Barbara & Gail (2)	14,600	Maridor (2)	9,700
Beatrice & Ida (2)	17,000	Miriam A. (2)	16,700
Carol-Jack (1)	10,000	Muskegon (1)	3,800
Clipper (2)	11,800	Norseman (3)	13,000
Enterprise (2)	14,800	Richard Lance (1)	3,600
Felicia (1)	8,200	Rosalie F. (1)	7,200
Florence B. (1)	9,300	S-No. 31 (2)	13,000

Thurlow G. Milton

Thurlow G. Milton, 52, vice-president and treasurer of Perkins-Milton Co., Inc., Caterpillar distributors, died of a heart attack on November 19.

Milton was a native of Peoria, Illinois, and a graduate of Bradley University. In 1928 he joined the Caterpillar Tractor Company in the sales department, and from 1936 to 1939 he was District Representative for Caterpillar in the New England area. From 1942 to 1944 he served as liaison man for Caterpillar with the War Production Board in Washington, D. C.

In 1944 he severed connections with Caterpillar and established the Milton-Hale Machinery Company of Albany and Syracuse, N. Y. In 1951 he came to Boston and joined John B. Perkins in the Perkins-Milton Company.

New Jersey Fishermen Want To Fish Closer to Shore

A proposal that would permit dragging for fish closer to the shore line was presented last month to the New Jersey Fish & Game Council by William C. Lundsford, Wildwood Crest. According to his proposal, a season for whiting and ling fish would be set from December 1 to March 31. At present, fishermen may drag all Winter, but must remain two miles from shore.

Since commercial fishermen make their living by fishing, it is felt that they should be permitted to get closer to shore, especially at this time of year, when they would not be interfering with resort attractions. The proposal has been approved by members of the Commercial Fishermen, Trappers and Land Owners Assoc.

Would Make Mechanical Clam Tongs Illegal

A resolution making illegal the use of clamming tongs operated by mechanical means was approved last month by the State Shell Fisheries Council. The resolution will be sent to the State Attorney General's office. If approved, it would become an amendment to a present law governing the use of such tongs.

The Council agreed to study and make recommendations on the dredging of crabs along the State's coastline. It has been reported that many young crabs are dredged up in the early Spring before they grow to useful size.

Landings Set New Record

Landings of fish and shellfish at New Jersey ports during August amounted to 116.5 million pounds valued at 2.2 million dollars. This production was 56.6 million pounds above reported landings for the same period last year, due primarily to excellent weather and an abundance of seasonal varieties of fishery products. August landings this year were the largest in any one month since publication of such figures began.

Almost all of the bluefish were taken by hand lines. These fish generally ran smaller than usual, and prices paid to fishermen dropped accordingly. The catch taken by other trawls consisted principally of fluke, sea trout and scup, practically all landings being made by inshore craft.

South Carolina Trawlers Shrimping off Florida

Charleston trawler operators have begun their annual pursuit of shrimp in the warmer waters of the Gulf of Mexico and Florida. Better size shrimp are usually found in tropical waters after the last of October and November. The legal shrimp season in South Carolina does not close until December 15.

The *Miss Dona*, *Silver Star*, *Barbara Lee*, *Miss Cain*, *Hoy* and the *Carol El* are already in the South. Most shrimp boats are 60 ft. or over, and will stay South for the Winter.

It is estimated that from 12 to 15 boats from the Mt. Pleasant area will be operating in Florida by the middle of this month. They will return to Charleston about March or April of next year.

Boring Sponges Damage Oysters

According to Dr. Sewell Hopkins of Texas A & M, boring sponges in the coastal waters of South Carolina are having a destructive effect on the State's oyster crop. Dr. Hopkins has written a paper in which he describes the tiny perforations made in the shells of oysters by the boring sponges, and the weakening effect they have on the oysters.

He also told of the influence dry weather can have on oysters, and said that salt-loving marine organisms have invaded coastal waters due to a 22.5 deficiency in rainfall over the past two years.

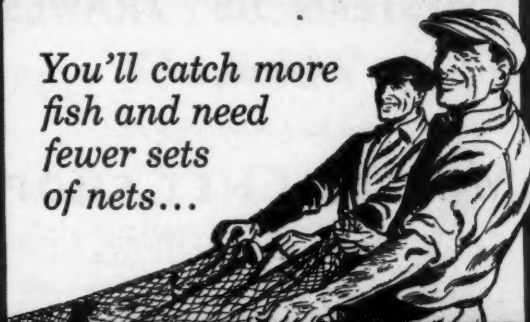


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Control of Shellfish Enemies

(Continued from page 16)

It is believed that within certain areas the chemical control of the stone crab now may become a possibility. Dr. R. W. Menzel, Florida State University, reports that the stone crab is a serious oyster enemy in the Gulf of Mexico, where it sometimes kills 25% of the oyster set.

With development of the new chemical methods, horse-shoe crabs and several species of true crabs, including green and rock crabs, should pose no control problem in the near future in many areas. These crabs are great destroyers of soft and hard clams.

Complete chemical control of another crustacean, *Upogebia pugetensis*, which in its appearance resembles a crawfish, probably can be achieved soon without much effort. According to Dr. P. S. Galtsoff, this crustacean causes great difficulties to oyster farmers of Puget Sound by making passages under the oyster dikes, and also by piling up excavated sand and mud on oyster beds.

It is believed that predation by crabs in large, outdoor tanks, salt water ponds and certain natural bottoms used for propagation of shellfish, can be successfully controlled. Field and laboratory observations have shown that oysters, especially young ones, are frequently destroyed in New England waters by green, rock, mud and blue crabs.

Oyster crabs, which live inside oysters, are very prevalent in many areas. They cause damage to the gills of oysters and unfavorably affect quality of the oyster meats. This parasite probably can be eliminated in many cases by using solutions of chemicals.

Another enemy that lives inside mollusks is a parasitic copepod, which attacks Olympia and European oysters and other shellfish, including mussels. It is believed that if the infected oysters were allowed to pump water containing certain chemicals, the parasites would be killed.

Dr. H. Prytherch has shown that the mud crab serves as an intermediate host in the transmission of sporozoan, *Nematopsis*, which in many sections of the Atlantic and Gulf Coasts parasitizes the oyster. Chemicals could be used to exterminate these crabs in desired areas.

Should not Endanger Commercial Shellfish

Another and extremely important point that always should be considered when control measures are applied under natural conditions, is the danger of killing desirable species. It is proposed to solve this problem by finding poisons that will kill only certain animals and leave others unharmed. Some promising results already have been obtained in this direction.

While evaluating chemicals to find the most promising ones to control crab-like animals, consideration is being given at the same time to a way in which these substances can be used on natural and artificial shellfish grounds. At present, cooperation is under way with commercial enterprise to incorporate the poisons and the substances that should attract the enemies in special pellets which can be mechanically distributed over the grounds.

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Massachusetts Research Vessel Finds Small Scallops on Browns Bank

Results of the first scallop exploratory cruise by the Fish & Wildlife Service's commercial research trawler *Delaware* indicated that Browns Bank supports a sizable population of scallops in one area. However, all scallops found were of an average size below commercial minimums for economical production. The objective of this exploration was to investigate areas where the commercial fishery is not operating presently, and survey for a possible commercial scallop potential.

The second phase of the exploration consisted of tows in the Jeffreys Ledge and Fippennies Ledge areas. One 20-minute tow by the *Delaware* on Fippennies yielded 75 scallops of 4½" and 5" size with 37 eyes per pound. Heavy weather hampered operations all during the second phase and prohibited any further exploration in this area for its commercial potential.

On the *Delaware's* previous cruise, sizable surface schools of bluefin tuna were found in the South Channel area, but the area far offshore and south to the vicinity of the Gulf Stream track produced no positive indications of surface schooling tuna.

Sargent Named Natural Resources Commissioner

Francis W. Sargent of Orleans has been named Commissioner of Natural Resources for Massachusetts, succeeding Arthur T. Lyman, who resigned. Mr. Sargent appointed Frederick C. Wilbour, Jr. of Westport to succeed him as State Director of Marine Fisheries.

Sargent is a career man in the Department, having been named as Director of Marine Fisheries in 1947. He is widely known throughout the East for his activity in the conservation field, particularly in matters pertaining to fishing and fisheries. Mr. Sargent has served as acting Commissioner during absences of Mr. Lyman from the State, for the past two years.

Mr. Wilbour has engaged in various phases of the commercial fisheries since 1925, including clerk, fish cutter, shellfisherman, trap fisherman, and crew member aboard various druggers. He operated his own fishing vessel engaged in sea scalloping and dragging until 1936, when he was engaged as captain of the State Marine Fisheries Patrol Boats. From December, 1955, until August, 1956, he was chief marine officer of the Law Enforcement Division.

Crabbing Is Million-Dollar-Industry

(Continued from page 15)

Egg-bearing crabs are most abundant in the southern waters of the bay because of favorable conditions as to food supplies, salinity, and temperature. The zoea, the first larval stage of the crab, is most plentiful near Cape Henry, because of like favorable conditions. The zoea moults every three or four days at first, increasing in size each time. Afterwards, the crab sheds progressively less often until it reaches sexual maturity. It sheds about 20 times in all.

Most of the crabs hatched in the lower Chesapeake Bay soon begin a northward migration. Cold weather interrupts this journey, and the crabs settle to the bottom and cease to feed or grow until conditions are more favorable. In the Spring, they reach Maryland, nearly mature. Here the mating of the majority of the crabs takes place. The female mates only once, at the time of her final shedding; the male perhaps several times.

After mating, the females return to the lower Chesapeake, but most of the males remain behind. Eighty-five percent of the crabs caught in the lower Chesapeake Bay are females.

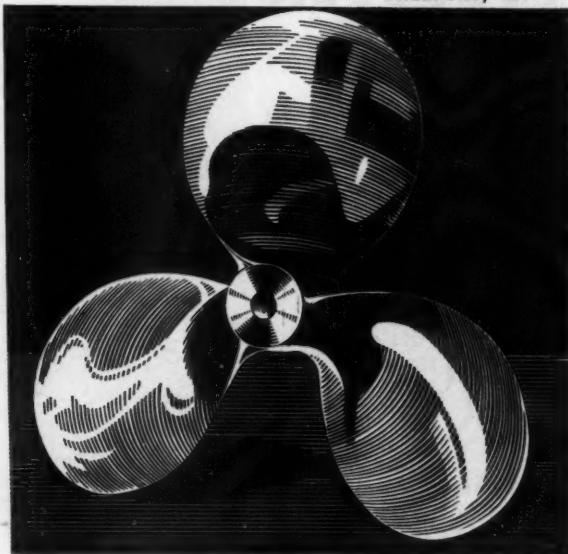
Many of the eggs do not hatch, and still fewer of the larvae and very small crabs live to become adults. Such hazards as a fungus disease, worms, suffocation, temperature, or preying feeders, destroy them. The crabs reach a marketable stage in about one year.

Columbian

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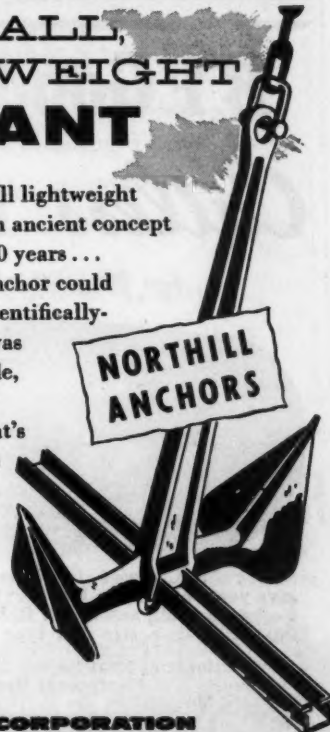
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North Carolina to Benefit From New Menhaden Plant

The Standard Products Co. fish factory located in Carteret County is a new concern which will employ about 30 men. It will operate four boats—the *Elizabeth M. Froelick*, Capt. Leo Willis; *William T. Covington*, Capt. Elmer Dudley; *Raymond Humphries*, Capt. Robin Routt and the *Tenderheart*, Capt. Nathaniel Jackson. Each boat has a crew of about 25 men. The capacity of these boats is about 550,000 to 600,000 menhaden or 150 to 200 tons.

The new factory is equipped with several pieces of equipment which were designed by H. R. Humphries, Sr., founder of the company. They include the Humphries fish pump, a piston type positive displacement pump which unloads the boats; rotary de-watering screens, used to separate usable fish products from water and waste; and the Humphries fish measurer, which measures menhaden in units of thousands of fish.

Other plants owned by Standard Products are located at White Stone and Reedville, Va., and at Moss Point, Miss.

Studying Oregon Inlet Area Waters

Because the future deepening of Oregon Inlet will probably have an effect on sound and inland fisheries of the coast, the Institute of Fisheries, Morehead City, is making a hydrographic study of waters in that area. Dr. Gerald Posner is in charge of the study.

The opening of the inlet will allow much more ocean salt water to penetrate the inland water areas, and this may change the fishing conditions of the area. The present study of salinity and water temperatures will serve as a basis for comparison of the waters after the channel is deepened.

Landings for September Increase

Landings of commercially-caught fish and shellfish at North Carolina ports during September totaled 13.1 million pounds, compared with 4.7 million pounds during the same period last year. The large increase was due primarily to more favorable weather this year.

The production of menhaden greatly exceeded the amount landed during the same period last year, and receipts of other finfish also increased. Shrimp and menhaden led all other items in volume, and accounted for 82 percent of the total.

Still Gill-Netting at 75

Howard Lewis, who lives near Swansboro, has been engaged in the commercial fish business for more than 50 years. He is 75 years old, and still is actively engaged in gill-netting. He is currently working with a crew for Gordon C. Willis of Morehead City.

Lewis believes there is a future in smoked mullet, and feels that such a business is practical. He also would like to see plans developed for processing and packaging more of the State's seafood products.

Menhaden Late in Showing Up

Menhaden fishermen last month were not doing very well, simply because it had been too warm for the menhaden. Usually there are good catches the first week in November. However, this year, it was not until the last day of the month that the fish began to show up in any numbers. The menhaden were described as "normal size", but the big fat fish which are heavy with oil haven't turned up yet.

W. H. Potter of Beaufort Fisheries reported his boats would fish until the middle of January. Most of the out-of-State boats were expected to leave about the middle of this month to be home in time for Christmas.

To Build Fishway on Potomac

Biologists at the U. S. Fishery Laboratory at Pivers Island have made a scale model of a fishway which they

plan to build at Little Falls Dam on the Potomac River, two miles above Washington, D. C. This particular type of fishway was first developed by the International Pacific Salmon Fisheries Commission for use on the Fraser River in British Columbia.

Unless some means is found to help such fish as the white shad and striped bass on their journey to the spawning grounds, biologists point out that the supply of commercially-valuable fish may dwindle.

Long Island Whiting Catch Exceptional for November

The whiting catch in Montauk waters, mostly Gardiners Bay and Fort Pond Bay, was heavy last month. The first week the boats had 75,000 lbs.—750 boxes which were shipped from Gosman's Dock at Lake Montauk. Second week's shipment was 300,000 lbs. On the 11th, 30,000 lbs. were shipped, and on the 12th, 53,000 lbs.

Most of the whiting go to mink farms, where they are stored in deep-freezers to be fed to the mink as needed.

The first butterfish of the season were brought into Montauk on Columbus Day by the dragger *Alwa*, which had a catch of 67 boxes.

Fifteen Boats Dredge for Scallops

New York's deep-sea fishing fleet consists of about 15 boats, which dredge for deep-sea scallops near Nantucket Shoals and Georges Bank. The steady market for scallops keeps the fleet busy for eight months out of the year; the remaining four—from December to April—are spent catching fluke, sea bass, flounder and butterfish along the coast from Massachusetts to Virginia.

One of the craft that ties up at the basin in Brooklyn is the 96-ft. *Carol-Jack*, a former mine sweeper owned and managed by Capt. William Lind. Her part owner and skipper is O. Christ Olsen of Brooklyn.

Seek Removal of Sand Bar

Fishermen and party boat captains of the Great South Bay area last month asked for the immediate removal of a fast-growing sand bar in Fire Island Inlet. The Town Board has been requested to ask the Army Engineers to prevent the inlet from becoming dangerous.

Fishing for Menhaden

There are eleven large boats fishing for menhaden out of the docks at Promised Land on Nepague Bay. The factory makes many different products from the fish.

Scallopers Find Shelter at Lake Montauk

A recent bad storm drove four large scallop boats that sail out of New Bedford into Lake Montauk for shelter, which they found at Gosman's Dock. Three remained in the safe waters until the next day, and all refueled.

Landings Show Gain

Landings of fish and shellfish during August, exclusive of menhaden caught by purse seines, amounted to 2.5 million lbs. valued at \$605,000, an increase of 18 percent in volume and 3 percent in value compared with August 1955. Greater landings of fluke, bluefish, hard clams, surf clams and squid accounted for most of the gain.

"David A." Gets New Diesel

The 75' dragger *David A.*, owned by Capt. Inar Unander of Greenport, N. Y., has been repowered with a D375 Caterpillar Diesel. The engine was sold by H. O. Penn Machinery Co., and installed at Brigham's Shipyard, Greenport.

The vessel was built at Owl's Head, Maine, in 1947, and formerly fished out of Rockland. Her new engine is a V-8 model with Roots blower. It has Snow-Nabstedt 3.9:1 reduction gear and front power take-off, and develops 300 hp. at 1200 rpm.

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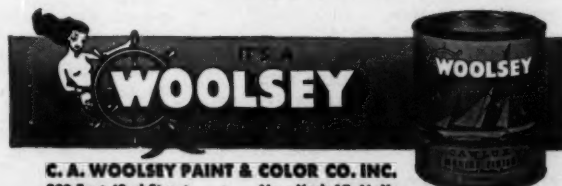
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Enterprise Engine & Machinery Co., 18th and Florida Sts., San Francisco 10, Calif.
Fairbanks, Morse & Co., Chicago, Ill.
Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
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LIGHTS FOR ATTRACTING FISH

are being used by Soviet scientists, who report that over 50 different kinds of fish can be caught more easily with this method. One scientist conducted tests in which a powerful electric lamp was lowered into the water alongside a conical net, which was hauled in full of fish within 2 or 3 minutes.

A small vessel using the light method made a particularly large catch of mackerel, obtaining some 17 tons of fish in one night.

NORWEGIAN JIG, an artificial lure said to be superior even to bait in catching cod, pollock and haddock, is rapidly gaining in prominence in Nova Scotian fishing circles. Exclusively hand-line equipment, it consists of a Monel spoon with three hooks, and is fished with a plastic and nylon line.

Without extra attachments, the new jig has been found to be successful for cod, while for haddock and pollock the addition of another type of artificial bait resembling a water bug is said to produce best results.

SOUTH AFRICAN FISH INDUSTRY

in the period of years since 1943, has grown from being virtually negligible to the position where it is one of the 10 leading fishing nations of the world. Though there was some development of the trawler industry as early as 1903, there was little or no Government encouragement until a report of the Division of Fisheries in 1929 drew attention to the presence of large shoals of pilchard and maasbanker.

NORWAY'S COD SEASON, which ended in August, brought a catch of nearly 160,000 metric tons, or approximately 36,000 tons more than in previous year. British market for fresh cod has been good, but stocks of frozen cod are increasing, as this market has been less favorable.

The catch of brisling and small sild herring continues to fall behind that of recent years. The poor catch is reflected in the exports of brisling, which total less than half the number of cases exported in first ten months of 1955.

DECONTROL BY PHILIPPINES of canned herring and mackerel imports has been announced by the Monetary Board. Under control, no import licenses were being granted by Philippine Government for canned mackerel and herring.

NEWFOUNDLAND'S FISHERMEN were told recently that overproduction has made the position of the Newfoundland frozen fish exporter a difficult one. It was pointed out that the 1956 market position was "depressing", and the price was without improvement.

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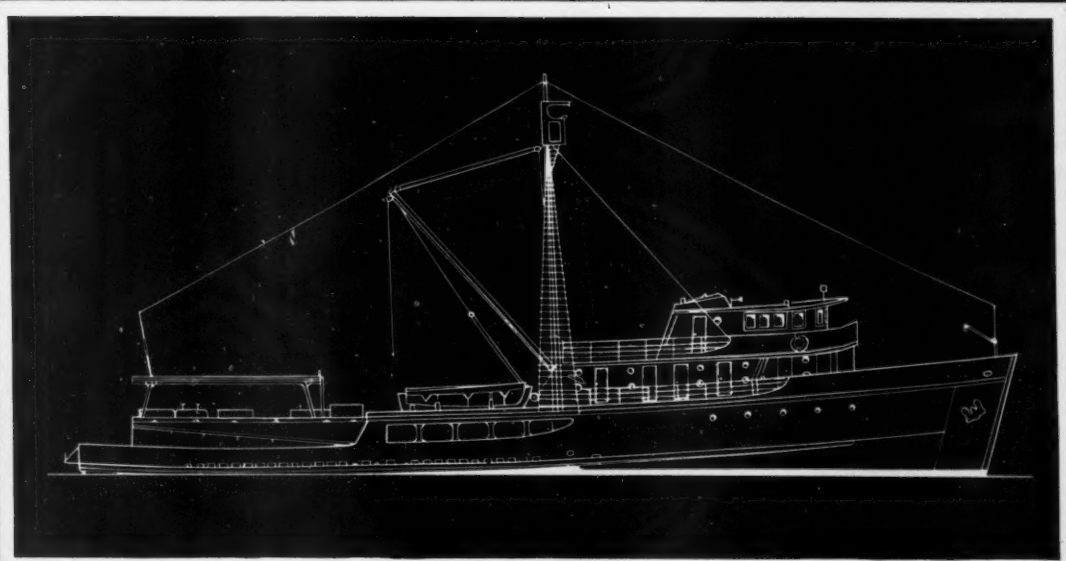
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BOTH have Fairbanks-Morse O-P Power

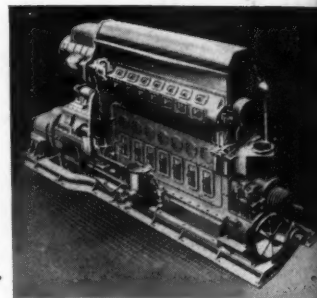
Wherever dependable marine power is specified—in design or repowering of any vessel from a ferry to a trawler—you'll find a Fairbanks-Morse Marine Diesel Opposed-Piston Engine.

When the *Holy Family* was repowered, her 325 hp. engine was replaced with a 445 hp. Model 38F O-P. It increased her free speed 15%, trawling speed 50%. Being a shorter and lighter engine, the O-P allowed a 30% increase in fish-hold capacity. Fuel capacity was also increased, extending her steaming range.

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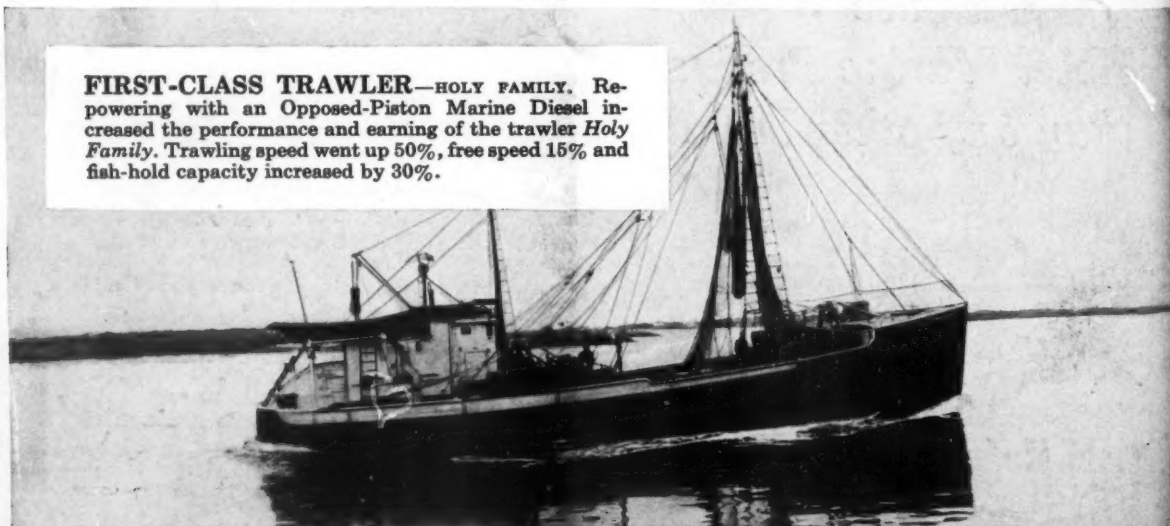


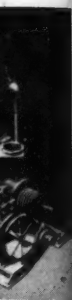
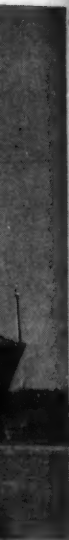
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